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Supplementary Texts

Supplementary Text S1 Details on the methods of the study

Search syntax and results for each electronic database

PubMed

(delir* OR confusio* OR "Delirium"[Mesh] OR "Confusion"[Mesh]) AND ("bacteriuria"[Mesh] OR bacteriur* OR bacillur* OR pyur* OR ("asymptomatic infections"[Mesh] OR asymptom* OR nonsymptom* OR non symptomatic OR (without OR no OR absen*)) AND (bacteriur* OR bacillur* OR pyur* OR bacteria OR infectio*)) OR "urinary tract infections"[Mesh] OR (("urinary tract"[Mesh] OR (urinary AND tract) OR urinary OR genito-urinar* OR genitourinar* OR urogenital* OR bladder OR kidney) AND ("Infections"[Mesh] OR infectio*)) OR UTI OR "utis" OR "dysuria"[Mesh] OR dysuri* OR cystitis[Mesh] OR cystiti* OR "pyelocystitis"[Mesh] OR pyelocystiti* OR pyelo-cystiti* OR cystopyelit* OR "pyelonephritis"[Mesh] OR pyelonephrit* OR pyelo-nephrit*)

No limitations were placed in terms of language, date, type and status of publications

Search results for 5 January 2021: 1096 items

Ovid Databases (Ovid MEDLINE(R) ALL, Embase, PsycINFO)

1. exp delirium/ or exp confusion/
2. (delir* or confusio*).af.
3. exp bacteriuria/ or exp pyuria/ or exp urinary tract infection/ or exp dysuria/ or exp cystitis/ or exp pyelocystitis/ or exp pyelonephritis/
4. (bacteriur* or bacillur* or pyur* or leukocytur* or dysur* or cystit* or pyelocystit* or pyelo-cystit* or cystopyelit* or pyelonephrit* or pyelo-nephrit*).af.
5. (uti or "utis").af.
6. exp asymptomatic infections/
7. exp urinary tract/
8. (urinary or genito-urinar* or genitourinar* or urogenital* or bladder or kidney).af.
9. (asymptom* or nonsymptom* or non symptomatic).af.
10. exp infection/
11. infectio*.af.
12. 10 or 11
13. 1 or 2
14. 7 or 8 or 9
15. 12 and 14
16. 3 or 4 or 5 or 6 or 15
17. 13 and 16

No limitations were placed in terms of language, date, type and status of publications

Search results for 5 January 2021: 8243 items

CINAHL

1. (MH "Delirium") OR (MH "ICU Psychosis") OR (MH "Confusion+")
2. delir* OR confusio*
3. (MH "Bacteriuria") OR (MH "Pyuria") OR (MH "Urinary Tract Infections+") OR (MH "Dysuria") OR (MH "Cystitis+") OR (MH "Pyelonephritis")
4. bacteriur* OR bacillur* OR pyur* OR leukocytur* OR uti OR "utis" OR dysur* OR cystit* OR pyelocystit* OR pyelo-cystit* OR cystopyelit* OR pyelonephrit* OR pyelo-nephrit*
5. (MH "Urinary Tract+") OR urinary OR genito-urinar* OR genitourinar* OR urogenital* OR bladder OR kidney
6. asymptom* OR nonsymptom* OR non symptomatic
7. (MH "Infection+") OR infectio*
8. S1 OR S2
9. S5 OR S6
10. S7 AND S9
11. S3 OR S4 OR S10
12. S8 AND S11

No limitations were placed in terms of language, date, type and status of publications

Search results for 5 January 2021: 344 items

Cochrane Library

- #1 MeSH descriptor: [Delirium] explode all trees
- #2 MeSH descriptor: [Confusion] explode all trees
- #3 delir* OR confusio*
- #4 #1 OR #2 OR #3
- #5 MeSH descriptor: [Bacteriuria] explode all trees
- #6 MeSH descriptor: [Pyuria] explode all trees
- #7 MeSH descriptor: [Urinary Tract Infections] explode all trees
- #8 MeSH descriptor: [Dysuria] explode all trees
- #9 MeSH descriptor: [Cystitis] explode all trees
- #10 MeSH descriptor: [Pyelocystitis] explode all trees
- #11 MeSH descriptor: [Pyelonephritis] explode all trees
- #12 MeSH descriptor: [Asymptomatic Infections] explode all trees
- #13 bacteriur* OR bacillur* OR pyur* OR leukocytur* OR uti OR "utis" OR dysur* OR cystit* OR pyelocystit* OR pyelo-cystit* OR cystopyelit* OR pyelonephrit* OR pyelo-nephrit*
- #14 MeSH descriptor: [Urinary Tract] explode all trees
- #15 urinary OR genito-urinar* OR genitourinar* OR urogenital* OR bladder OR kidney
- #16 asymptom* OR nonsymptom* OR non symptomatic
- #17 MeSH descriptor: [Infection] explode all trees
- #18 infectio*
- #19 #14 OR #15 OR #16
- #20 #17 OR #18
- #21 #19 AND #20
- #22 #5 OR #6 OR #7 OR #8 OR #9 OR #10 OR #11 OR #12 OR #13 OR #21
- #23 #4 AND #22

No limitations were placed in terms of language, date, type and status of publications

Search results for 5 January 2021: 673 items

Web of Science (Web of Science Core Collection [Science Citation Index Expanded, Social Sciences Citation Index, Arts & Humanities Citation Index, Conference Proceedings Citation Index- Science, Conference Proceedings Citation Index- Social Science & Humanities, Emerging Sources Citation Index], KCI-Korean Journal Database, MEDLINE®, Russian Science Citation Index, SciELO Citation Index)

- 1 TOPIC: (delir* OR confusio*)
- 2 TOPIC: (bacteriur* OR bacillur* OR pyur* OR leukocytur* OR uti OR "utis" OR dysur* OR cystit* OR pyelocystit* OR pyelo-cystit* OR cystopyelit* OR pyelonephrit* OR pyelo-nephrit*)
- 3 TOPIC: (urinary OR genito-urinar* OR genitourinar* OR urogenital* OR bladder OR kidney)
- 4 TOPIC: (asymptom* OR nonsymptom* OR non symptomatic)
- 5 TOPIC: (infectio*)
- 6 #4 OR #3
- 7 #6 AND #5
- 8 #7 OR #2
- 9 #8 AND #1

No limitations were placed in terms of language, date, type and status of publications

Search results for 5 January 2021: 1541 items

Scopus

TITLE-ABS-KEY((delir* OR confusio*) AND (bacteriur* OR bacillur* OR pyur* OR leukocytur* OR uti OR "utis" OR dysur* OR cystit* OR pyelocystit* OR pyelo-cystit* OR cystopyelit* OR pyelonephrit* OR pyelo-nephrit* OR ((urinary OR genito-urinar* OR genitourinar* OR urogenital* OR bladder OR kidney) AND infectio*)))

No limitations were placed in terms of language, date, type and status of publications

Search results for 5 January 2021: 4365 items

The Networked Digital Library of Theses and Dissertations (NDLTD)

(delir* OR confusio*) AND (bacteriur* OR bacillur* OR pyur* OR leukocytur* OR uti OR "utis" OR dysur* OR cystit* OR pyelocystit* OR pyelo-cystit* OR cystopyelit* OR pyelonephrit* OR pyelo-nephrit* OR ((urinary OR genito-urinar* OR genitourinar* OR urogenital* OR bladder OR kidney) AND infectio*))

No limitations were placed in terms of language, date, type and status of publications

Search results for 5 January 2021: 33 items

ProQuest Dissertations & Theses Global (via ProQuest)

noft((delir* OR confusio*) AND (bacteriur* OR bacillur* OR pyur* OR leukocytur* OR uti OR "utis" OR dysur* OR cystiti* OR pyelocystit* OR pyelo-cystit* OR cystopyelit* OR pyelonephrit* OR pyelo-nephrit* OR ((urinary OR genito-urinar* OR genitourinar* OR urogenital* OR bladder OR kidney) AND infectio*)))

No limitations were placed in terms of language, date, type and status of publications

Search results for 5 January 2021: 11 items

Other search sources

Additional manual searches were conducted by two researchers (DK and RK) between February and June 2020 in the following **journals**:

American Journal of Geriatric Psychiatry, International Journal of Geriatric Psychiatry, Aging and Mental Health, Journal of Geriatric Psychiatry and Neurology, International Psychogeriatrics, Neuropsychiatric Disease and Treatment, Clinical Gerontologist, Psychogeriatrics, Nature Reviews Microbiology, Clinical Microbiology Reviews, The Lancet Infectious Diseases, FEMS Microbiology Reviews, Clinical Infectious Diseases, European Urology, Journal of Urology, Urology, Journal of the American Geriatrics Society, Age and Ageing

Search results: no suitable articles were found that were not included in the final library of studies found through the database search.

Additional manual searches were conducted by two researchers (DK and RK) between May and June 2020 in the following **conference proceedings**:

Annual Meeting of American Association for Geriatric Psychiatry, Annual Scientific Meeting of Canadian Academy of Geriatric Psychiatry and Canadian Coalition for Seniors' Mental Health, Annual Congress of the European Association of Urology, Annual Meeting of the American Urological Association, European Congress of Clinical Microbiology and Infectious Diseases (European Society of Clinical Microbiology and Infectious Diseases), International Conference on Healthcare Associated Infections (Society for Healthcare Epidemiology of America), International Congress on Infectious Diseases (International Society for Infectious Diseases), Annual Scientific Meeting of the Gerontological Society of America, Annual Scientific Meeting of the American Geriatrics Society, Congress of the European Geriatric Medicine Society.

Search results: no suitable records were found that were not included in the final library of studies found through the database search.

Between February and July 2020, two researchers (DK and RK) also contacted members of the following **professional associations** by email, asking them to provide any published and/or unpublished data on the associations of delirium with urinary tract infections and asymptomatic bacteriuria in adults aged 65 years and over:

American Delirium Society, European Delirium Association, Scottish Delirium Association, Australasian Delirium Association, American Association for Geriatric Psychiatry, Canadian Academy of Geriatric Psychiatry and Canadian Coalition for Seniors' Mental Health, International Society for Infectious Diseases, Infectious Diseases Society of America, European Society of Clinical Microbiology and Infectious Diseases, Scottish Urinary Tract Infection Network, Society for Healthcare Epidemiology of America, European Association of Urology, American Urological Association, Gerontological Society of America, American Geriatrics Society, European Geriatric Medicine Society.

Search results: the representatives of the professional associations could not provide us with any suitable information.

If the necessary data were not reported, which precluded the inclusion of a study, we **contacted the corresponding authors of the potentially eligible studies** to ask them for the relevant information.

Results of requests for missing data: we contacted the authors of 6 potentially eligible articles asking them to provide the missing data, but the data we requested were only provided by the authors of 3 studies (Alvarez-Perez et al., Amado-Tineo et al. and Gau et al.; reference numbers in the main publication 32, 33, 22 respectively), all of which were included in the review.

Identification of studies

Studies identified by electronic and manual searches were listed with citation, titles and abstracts in EndNote X9 (Clarivate, Philadelphia, PA 2013), duplicates were excluded in two steps: first using the EndNote X9 function "remove duplicates" and then manually. The formed library of studies was then uploaded to Rayyan QCRI (<https://www.rayyan.ai/>), a free web and mobile app that facilitates collaboration between reviewers during the study selection process. Prior to the formal beginning of the screening process, a pilot calibration exercise was conducted in order to test the screening.

Selection of studies

The eligibility process was conducted in four separate stages:

1. Two authors (DK and RK) independently and blindly screened the title and abstracts of all non-duplicated papers and excluded those clearly not pertinent. The final list of 417 articles selected for the next stage of the 8748 articles screened was agreed with the discrepancies resolved by consensus between the two authors. If there was any doubt about inclusion, the article proceeded to the next stage.
2. The full-text versions of the articles that passed the first stage of screening were downloaded.
3. Next, DK and RK independently manually screened the reference lists of 417 potentially eligible studies and 3 previously published reviews (reference numbers in the main publication: 24-26) to identify additional studies that were not included in the final library of studies found through the database search. 8 studies were identified, with screening discrepancies resolved by consensus between the two authors. The full-text versions of these 8 studies were downloaded and added to the library of 417 full-text articles that passed the title and abstract screening.
4. Finally, 425 full-text articles were assessed for eligibility by two authors (DK and RK) independently and blindly. The final list of 29 articles selected of the 425 full-text articles screened was agreed with the discrepancies resolved by consensus between the two authors whereas in the case of 3 articles another author (EL) acted as arbitrator. Data from multiple reports of the same study were linked together. A list of the 399 articles excluded at this stage, with reasons for exclusion, is provided separately (see Supplementary Table S3).

Methods for addressing articles published in languages other than English

One or more authors of this publication are fluent in English, German, French, Polish, Spanish, Russian and Belarusian. It was intended that authors of potentially relevant studies published in languages not spoken by the investigators would be asked, if necessary, to provide details of their study in English or another language spoken by the investigators. However, no such need arose during the work on the present systematic review.

Data extraction

Two researchers (DK and RK) independently and blindly performed data extraction. Discrepancies that arose regarding about 8% of the extracted data were resolved by consensus between the two authors. In order to ensure consistency among reviewers, a calibration exercise was performed before the data extraction started.

Data was extracted and inserted into an MS Excel sheet. The following data was extracted:

1. Publication detail: year of publication, country where the study was conducted and language of publication;
2. Study design: type of study (cross-sectional, case-control, cohort, other); study temporality (prospective, retrospective); patient enrollment (consecutive, nonconsecutive); study setting (clinical, nursing home, epidemiological population study, mixed study population);
3. Study participants details: number of study participants, minimum age of study participants, mean age (SD) or median age (IQR) in the whole group of study participants and/or in individual study sub-groups, gender distribution (n of male), SES and race/ethnicity of participants in the whole group of study participants and/or in individual study sub-groups; medical and psychiatric co-morbidities of individuals with and without delirium (type and prevalence), method to establish the diagnosis of delirium (accordance to criteria of DSM (any version) or ICD (any version), scales accordance to criteria of DSM (any version) or ICD (any version), both scales and criteria accordance to DSM (any version) or ICD (any version), diagnosis recorded in medical files); medication status of individuals with and without delirium (type of medication and percentage of treated participants), methods used to define urinary tract infection (urine tests and presence of UTI symptoms, diagnosis recorded in medical files) and asymptomatic bacteriuria (microbiological urine tests, on the basis of study-defined criteria, diagnosis recorded in medical files);
4. Outcome measure: number of study participants with delirium, without delirium, with urinary tract infection, without urinary tract infection, with asymptomatic bacteriuria, without asymptomatic bacteriuria, with delirium and with urinary tract infection, without delirium and with urinary tract infection, with delirium and without urinary tract infection, without delirium and without urinary tract infection, with delirium and with asymptomatic bacteriuria, without delirium and with asymptomatic bacteriuria, with delirium and without asymptomatic bacteriuria, without delirium and without asymptomatic bacteriuria; effect size (any type with specification) of the association between delirium and urinary tract infection (with p-value), effect size (any type with specification) of the association between delirium and asymptomatic bacteriuria (with p-value).

Assessment of study quality and bias

Two authors (DK and RK) independently and blindly assessed the quality and bias of the included studies using the Newcastle-Ottawa scale. For the items included in this scale, see Supplementary Text S2. Discrepancies in the ratings (6% of total items) were resolved by consensus. For the assessment results of each study, see Supplementary Table S4.

Procedure for deciding on the eligibility of studies for each synthesis

After data extraction was completed, the first author (DK) formed further the following groups of studies on the association between delirium and UTI in older adults for subgroup meta-analyses, guided by the data already extracted: 1) studies in which participants with delirium were compared with non-delirium controls, 2) studies in which participants with UTI were compared with non-UTI controls, 3) studies with a diagnosis of delirium based on DSM or ICD criteria, 4) studies with a diagnosis of UTI based on microbiological urine tests, 5) studies conducted in the clinical setting, 6) studies conducted in nursing homes, 7) studies of population-based samples.

After identifying the study with the highest relative weight (reference number in the main publication: 34) and the study with the largest effect size (reference number in the main publication: 55), two groups of studies were prepared for sensitivity analyses. In the first group, the study with the highest relative weight was removed, while in the second group the study with the largest effect size was eliminated.

Handling of missing data, complex issues of data preparation for synthesis and data conversion

When the associations of delirium with UTI and AB were reported as a percentage of individuals in each of the study subgroups with a known number of participants (e.g. the percentage of participants with UTI in subgroups of participants with and without delirium, the numbers of participants in which were reported by the authors), the two authors (DK and RK) independently and blindly converted these rates to the number of participants, resolving discrepancies by consensus.

In two included RCTs (reference numbers in the main publication: 45, 46) investigating environmental interventions to reduce the incidence of delirium, in which associations between delirium and UTI were also reported, the data were extracted for control groups only, for which the authors reported the number of patients with and without delirium as well as the number of patients with UTI in each subgroup.

For the selection of numerical moderators for the meta-regression analysis, all data reported by the study authors on socioeconomic status, all medical and psychiatric comorbidities and medication use of the study participants were first extracted. These data from all studies were subsequently pooled together to see which items were reported in more than three studies, resulting in a list of numerical moderators from those items.

The data from the whole group of each study were used for meta-regression analyses with numerical moderators. If such data (e.g. the percentage of participants with a particular condition) were reported by the authors for both study subgroups, they were recalculated by the authors for the entire study group. The recalculation was carried out independently and blindly by DK and RK. Accordingly, studies in which these data were reported by the authors only for a subgroup (e.g. the subgroup of delirium participants) were not included in the meta-regression analysis.

In five studies (reference numbers in the main publication: 34, 39, 44, 52, 56), the authors did not report the mean age of the participants, but did report their minimum age which met our inclusion criteria. Data from these studies were included in the meta-analysis, but meta-regression analyses of the effect of age on the association between delirium and UTI in older adults were conducted only for the 24 studies (reference numbers in the main publication: 20-23, 32, 33, 35-38, 40-43, 45-51, 53-55) in which the authors reported the mean age of participants.

Tabular and visual display of the results of individual studies and syntheses

The results of the narrative synthesis were organised in two tables (Supplementary Tables S1 and S2), containing data on the studies addressing the associations between delirium and UTI, and between delirium and AB. The studies in the tables are listed in alphabetical order of the first authors' names. Each of the two tables contains the following data a) the name of the first author and year of publication of each study, b) country of study, c) study design, d) number of participants, e) age of participants (indicating both minimum age of participants and mean or median age of participants reported by authors), f) gender distribution (percentage of male participants), e) study setting, f) method of establishing diagnosis of delirium, g) method of establishing diagnosis of UTI or AB, and h) study results in terms of data on the associations of our interest (number of patients with and without delirium or with or without UTI and number of patients with or without UTI or with and without delirium in each study subgroup, respectively, calculated odds ratio with 95% confidence interval and p-value). The results of the meta-analytical syntheses are presented as forest plots (Figure 2, Supplementary Figures S2, S4, S6, S8, S10, S12, S13, S15 and S17), the data on publication bias are presented as funnel plots (Supplementary Figures S1, S3, S5, S7, S9, S11, S14 and S16).

Since the subgroup meta-analyses of studies in which the diagnosis of UTI was made on the basis of microbiological urine tests and of studies of population-based samples included only two studies each, it was not possible to assess publication bias and construct a funnel plot in these cases.

Data availability

All data extracted from the included studies and used for all analyses are presented in Supplementary Tables 1, 2, 6. A detailed description of the statistical analysis (including the software used) is presented in the "methods" section of the main text. A template data collection form (MS Excel spreadsheet) can be provided by the corresponding author on request.

Amendments to information provided in the protocol

According to our original plan, the study protocol specified that only studies comparing individuals with delirium to those without delirium were to be considered. However, before we started searching the databases, we decided to include also studies comparing individuals with UTI to those without UTI, as well as studies comparing individuals with asymptomatic bacteriuria to those without asymptomatic bacteriuria. The crucial point here was that the odds ratio we chose as a measure of the associations of our interest allowed such an approach, which additionally made it possible to include more studies that addressed the associations we were interested in. Subsequently, we conducted additional subgroup meta-analyses in which we separately considered studies comparing individuals with delirium to those without delirium as well as studies comparing individuals with UTI to those without UTI.

Supplementary Text S2 Items of the Newcastle-Ottawa Quality Assessment Scale

CASE CONTROL STUDIES

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Exposure categories. A maximum of two stars can be given for Comparability.

Selection

- 1) Is the case definition adequate?
 - a) yes, with independent validation *
 - b) yes, e.g. record linkage or based on self reports
 - c) no description
- 2) Representativeness of the cases
 - a) consecutive or obviously representative series of cases *
 - b) potential for selection biases or not stated
- 3) Selection of Controls
 - a) community controls *
 - b) hospital controls
 - c) no description
- 4) Definition of Controls
 - a) no history of disease (endpoint) *
 - b) no description of source

Comparability

- 1) Comparability of cases and controls on the basis of the design or analysis
 - a) study controls for _____ (select the most important factor) *
 - b) study controls for any additional factor *
(this criterion could be modified to indicate specific control for a second important factor)

Exposure

- 1) Ascertainment of exposure
 - a) secure record (e.g. surgical records) *
 - b) structured interview where blind to case/control status *
 - c) interview not blinded to case/control status
 - d) written self report or medical record only
 - e) no description
- 2) Same method of ascertainment for cases and controls
 - a) yes *
 - b) no
- 3) Non-Response rate
 - a) same rate for both groups *
 - b) non respondents described
 - c) rate different and no designation

COHORT STUDIES

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability

Selection

- 1) Representativeness of the exposed cohort
 - a) truly representative of the average _____ (describe) in the community *
 - b) somewhat representative of the average _____ in the community *
 - c) selected group of users eg nurses, volunteers
 - d) no description of the derivation of the cohort
- 2) Selection of the non exposed cohort
 - a) drawn from the same community as the exposed cohort *
 - b) drawn from a different source
 - c) no description of the derivation of the non exposed cohort
- 3) Ascertainment of exposure
 - a) secure record (eg surgical records) *
 - b) structured interview *
 - c) written self report
 - d) no description
- 4) Demonstration that outcome of interest was not present at start of study
 - a) yes *
 - b) no

Comparability

- 1) Comparability of cohorts on the basis of the design or analysis
 - a) study controls for _____ (select the most important factor) *
 - b) study controls for any additional factor *
(this criterion could be modified to indicate specific control for a second important factor)

Outcome

- 1) Assessment of outcome
 - a) independent blind assessment *
 - b) record linkage *
 - c) self report
 - d) no description
- 2) Was follow-up long enough for outcomes to occur
 - a) yes (select an adequate follow up period for outcome of interest) *
 - b) no
- 3) Adequacy of follow up of cohorts
 - a) complete follow up - all subjects accounted for *
 - b) subjects lost to follow up unlikely to introduce bias - small number lost - > 95% follow up or description provided of those lost *
 - c) follow up rate < 95% and no description of those lost
 - d) no statement

CROSS-SECTIONAL STUDIES

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Exposure categories. A maximum of two stars can be given for Comparability.

Selection

- 1) Representativeness of the sample
 - a) truly representative of the average in the target population *
(all subjects or random sampling)
 - b) somewhat representative of the average in the target group *
(non-random sampling)
 - c) selected group of users
 - d) no description of the derivation of the included subjects
- 2) Sample size
 - a) justified and satisfactory (including sample size calculation) *
 - b) not justified
- 3) Non-respondents
 - a) comparability between respondents and non-respondents characteristics is established, and the response rate is satisfactory *
 - b) the response rate is unsatisfactory, or the comparability between respondents and non-respondents is unsatisfactory
 - c) no description of the response rate or the characteristics of the responders and the non-responders
- 4) Ascertainment of the exposure (risk factor)
 - a) validated measurement tool *
 - b) non-validated measurement tool, but the tool is available or described *
 - c) no description of the measurement tool

Comparability

- 1) The subjects in different outcome groups are comparable, based on the study design or analysis. Confounding factors are controlled
 - a) study controls for _____ (select the most important factor) *
 - b) study controls for any additional factor *
(this criterion could be modified to indicate specific control for a second important factor)

Outcome

- 1) Assessment of outcome
 - a) independent blind assessment *
 - b) record linkage *
 - c) self report
 - d) no description
- 2) Statistical test
 - a) statistical test used to analyse the data clearly described, appropriate and measures of association presented including confidence intervals and probability level (p value) *
 - b) statistical test not appropriate, not described or incomplete

Supplementary Tables

Supplementary Table S1

Characteristics of included studies reporting an association between delirium and urinary tract infection in adults aged 65 years and over

First author, year ^a , study country	Study design	Number of participants, age of participants, % of male of participants	Study setting	Diagnosis of delirium	Diagnosis of UTI	Results
Alvarez-Perez, 2017 Portugal	Cohort, retrospective	805 patients age ≥ 67 years mean age 73.9 SD 11.8 male: 52.4 %	clinical	DSM-5 criteria	diagnosis recorded in medical files	103 patients with delirium (of which 28 with UTI) 702 patients without delirium (of which 81 with UTI) OR: 2.86; 95% CI: 1.75 - 4.68 p-value: < 0.001 (0,0000279510440095443)
Amado Tineo, 2013 Peru	Cross-sectional, prospective	172 patients age ≥ 60 years mean age 78.5 SD 8.3 male: 44.2 %	clinical	Confusion Assessment Method (CAM)	diagnosis recorded in medical files	60 patients with delirium (of which 6 with UTI) 112 patients without delirium (of which 12 with UTI) OR: 0.93; 95% CI: 0.33 - 2.60; p-value: 0.884
Anderson, 2010 USA	Cohort, prospective	350 residents age ≥ 65 years mean age 83.6 SD 6.9 male: 34.3 %	nursing home	Confusion Assessment Method (CAM)	diagnosis recorded in medical files	197 residents with delirium (of which 19 with UTI) 153 residents without delirium (of which 14 with UTI) OR: 1.06; 95% CI 0.51 - 2.19; p-value: 0.875
Arshi, 2018 USA	Cohort, prospective	8439 patients age ≥ 65 years median age in patients with delirium: 86 median age in patients without delirium: 84 male: 28.5 %	clinical	diagnosis recorded in medical files	diagnosis recorded in medical files	2569 patients with delirium (of which 154 with UTI) 5870 patients without delirium (of which 252 with UTI) OR: 1.42; 95% CI 1.16 - 1.75 p-value 0.001

Brouquet, 2010 France	Cohort, prospective	118 patients age \geq 75 years mean age 81.3 SD 4.8 male: 47.5 %	clinical	Confusion Assessment Method (CAM)	diagnosis recorded in medical files	28 patients with delirium (of which 0 with UTI) 90 patients without delirium (of which 5 with UTI) OR: 0.27; 95% CI: 0.01 - 5.09 p-value 0.384
de Bortoli Pereira, 2018 Brazil	Cross-sectional, prospective	172 patients age \geq 60 years mean age 71.2 SD 7.8 male: 64.2 %	clinical	Confusion Assessment Method (CAM)	diagnosis recorded in medical files	30 patients with delirium (of which 7 with UTI) 142 patients without delirium (of which 12 with UTI) OR: 3.30; 95% CI 1.17 - 9.26 p-value: 0.023
Edlund, 2001 Sweden	Cohort, prospective	71 patients age \geq 65 years mean age 78.8 SD 8.4 male: 21.1 %	clinical	DSM-IV criteria	diagnosis recorded in medical files	19 patients with delirium (of which 9 with UTI) 52 patients without delirium (of which 13 with UTI) OR: 2.70; 95% CI 0.90 - 8.09 p-value 0.076
Edlund, 2006 Sweden	Cohort, prospective	400 patients age \geq 70 years mean age 80.2 SD 6.0 male: 44.2 %	clinical	DSM-IV criteria	diagnosis recorded in medical files	125 patients with delirium (of which 9 with UTI) 275 patients without delirium (of which 11 with UTI) OR: 1.86; 95% CI 0.75 - 4.61 p-value 0.179
Elsamadicy, 2017 USA	Cohort, retrospective	453 patients age \geq 65 years mean age 72.5 SD 5.8 male: 46.6 %	clinical	DSM-5 criteria	diagnosis recorded in medical files	17 patients with delirium (of which 8 with UTI) 436 patients without delirium (of which 51 with UTI) OR: 6.71; 95% CI 2.48 - 18.17 p-value < 0.001 (0,000180048146131595)
Eriksson, 2010 Sweden	Cross-sectional, prospective	395 participants age \geq 85 years male: 0 %	epidemiolo gical	DSM-IV criteria	diagnosis recorded in medical files	117 participants with UTI (of which 44 with delirium) 278 participants without UTI

			population study			(of which 69 with delirium) OR: 1.83; 95% CI 1.15 - 2.90 p-value 0.011
Eriksson, 2011 Sweden	Cross-sectional, prospective	504 participants age ≥ 85 years mean age 90.6 SD 4.7 male: 0 %	epidemiological population study	DSM-IV criteria	diagnosis recorded in medical files	137 participants with delirium (of which 39 with UTI) 367 participants without delirium (of which 48 with UTI) OR: 2.64; 95% CI 1.64 - 4.27 p-value < 0.001 (0,0000698627545547836)
Gau, 2009 USA	Case-control, retrospective	246 patients age ≥ 65 years mean age 82.4 SD 8.0 male: 22.0 %	clinical	diagnosis recorded in medical files	microbiological urine tests (urine culture) and presence of UTI symptoms: Positive urine culture (10 ⁵ CFUs/mL or more of a urinary pathogen in a specimen) and at least one of the following clinical manifestations: local symptoms, fever, mental status change or delirium or other symptoms (eg, lower abdominal pain, nausea or emesis, falls)	104 patients with UTI (of which 40 with delirium) 142 patients without UTI (of which 11 with delirium) OR: 7.44; 95% CI 3.58 - 15.46 p-value < 0.001 (7,41764691891689E-08)
Gual, 2018 Spain	Cohort, prospective	909 patients age ≥ 65 years mean age 85.8 SD 6.7 male: 39.9 %	clinical	Confusion Assessment Method (CAM)	diagnosis recorded in medical files	352 patients with delirium (of which 67 with UTI) 557 patients without delirium (of which 35 with UTI) OR: 3.51; 95% CI 2.27 - 5.41 p-value < 0.001 (1,41210196868968E-08)
Jitapunkul, 1992 United Kingdom	Cohort, prospective	184 patients "elderly" patients mean age 81.7 SD 6.6	clinical	DSM-III-R criteria	diagnosis recorded in medical files	40 patients with delirium (of which 5 with UTI) 144 patients without delirium

		male: 40.8 %				(of which 3 with UTI) OR: 6.71; 95% CI 1.53 - 29.45 p-value 0.012
Khurana. 2002 India	Cohort, prospective	100 patients age \geq 65 years mean age 71.3 SD 5.2 male: 64.0 %	clinical	ICD-10 research criteria	diagnosis recorded in medical files	27 patients with delirium (of which 4 with UTI) 73 patients without delirium (of which 2 with UTI) OR: 6.17; 95% CI 1.06 - 35.93 p-value 0.043
Kobayashi, 2017 Japan	Cohort, retrospective	262 patients age \geq 80 years mean age 82.7 (range 80 - 91) male: 46.6 %	clinical	diagnosis recorded in medical files	diagnosis recorded in medical files	15 patients with delirium (of which 1 with UTI) 247 patients without delirium (of which 5 with UTI) OR: 3.46; 95% CI 0.38 - 31.63 p-value 0.272
Large, 2013 USA	Cohort, prospective	49 patients age \geq 65 years median age in patients with delirium: 77.8 (IQR: 73.5- 83.5) median age in patients without delirium: 73.1 (IQR 70.1- 76.5) male: 81.6 %	clinical	Confusion Assessment Method (CAM)	diagnosis recorded in medical files	14 patients with delirium (of which 6 with UTI) 35 patients without delirium (of which 5 with UTI) OR: 4.50; 95% CI 1.09 - 18.62 p-value 0.038
Lundström, 2004 (<i>"paper IV"</i> in the dissertation) Sweden	A control group from an RCT, was considered by us as a prospective cohort	96 patients age \geq 70 years mean age 82 SD 5.6 male: 23.7 %	clinical	DSM-IV criteria	diagnosis recorded in medical files	73 patients with delirium (of which 44 with UTI) 23 patients without delirium (of which 5 with UTI) OR: 5.46; 95% CI 1.83 - 16.35 p-value 0.002
Lundström, 2005 Sweden	A control group from an RCT, was considered by us as a	200 patients age \geq 70 years mean age 80.7 SD 6.2 male: 49.5 %	clinical	DSM-IV criteria	diagnosis recorded in medical files	62 patients with delirium (of which 3 with UTI) 138 patients without delirium (of which 4 with UTI)

	prospective cohort					OR: 1.70; 95% CI 0.37 - 7.85 p-value 0.494
Marcantonio, 2005 USA	Cohort, prospective	258 residents age \geq 65 years mean age 82 SD 7.6 male: 67.1 %	nursing home	Confusion Assessment Method (CAM)	diagnosis recorded in medical files	188 residents with delirium (of which 22 with UTI) 70 residents without delirium (of which 5 with UTI) OR: 1.72; 95% CI 0.63 - 4.74 p-value 0.292
Morandi, 2019 Italy	Cohort, retrospective	519 patients age \geq 65 years mean age 82.9 SD 9.4 male: 20.8 %	clinical	Confusion Assessment Method (CAM)	diagnosis recorded in medical files	77 patients with delirium (of which 35 with UTI) 442 patients without delirium (of which 101 with UTI) OR: 2.81; 95% CI 1.71 - 4.64 p-value < 0.001 (0,0000510578613921453)
Olofsson, 2005 Sweden	Cohort, prospective	61 patients age \geq 70 years mean age 82.6 SD 6.2 male: 34.4 %	clinical	DSM-IV criteria	diagnosis recorded in medical files	38 patients with delirium (of which 20 with UTI) 23 patients without delirium (of which 4 with UTI) OR: 5.28; 95% CI 1.51 - 18.46 p-value 0.009
Olofsson, 2018 Sweden	Cohort, prospective	134 patients age \geq 70 years mean age 82.2 SD 6.2 male: 25.2 %	clinical	DSM-IV-TR criteria	diagnosis recorded in medical files	75 patients with delirium (of which 39 with UTI) 59 patients without delirium (of which 13 with UTI) OR: 3.83; 95% CI 1.78 - 8.23 p-value 0.001
Perez-Ros, 2018 Spain	Case-control, retrospective	306 residents age \geq 65 years mean age 86 SD 7.2 male: 24.7 %	nursing home	DSM-IV criteria and Confusion Assessment Method (CAM)	diagnosis recorded in medical files	184 residents with delirium (of which 68 with UTI) 122 residents without delirium (of which 27 with UTI) OR: 2.06; 95% CI 1.22 - 3.48 p-value 0.007

Raats, 2015 Netherlands	Cohort, prospective	232 patients age \geq 65 years median age in patients with delirium: 80 (IQR 7) median age in patients without delirium: 75 (IQR 10) male: 63.8 %	clinical	DSM-IV criteria and Delirium Observation Screening Scale (DOSS)	diagnosis recorded in medical files	35 patients with delirium (of which 3 with UTI) 197 patients without delirium (of which 5 with UTI) OR: 3.60; 95% CI 0.82 - 15.81 p-value 0.090
Sandberg, 1999 Sweden	Cross-sectional, prospective	717 participants age \geq 75 years mean age 83.7 SD 5.2 male: 55.4 %	mixed (hospital, nursing homes, old people's homes, home medical care patients)	DSM-III-R criteria	diagnosis recorded in medical files	315 participants with delirium (of which 31 with UTI) 402 participants without delirium (of which 26 with UTI) OR: 1.58; 95% CI 0.92 - 2.72 p-value 0.100
Schuurmans, 2003 Netherlands	Cohort, prospective	92 patients age \geq 70 years mean age 82.7 SD 6.7 male: 13.0 %	clinical	DSM-IV criteria	diagnosis recorded in medical files	18 patients with delirium (of which 2 with UTI) 74 patients without delirium (of which 3 with UTI) OR: 2.96; 95% CI 0.46 - 19.19 p-value 0.256
Stroomer-van Wijk, 2016 Netherlands	Case-control, prospective	88 patients age \geq 70 years mean age 86.5 SD 6.5 male: 23.9 %	clinical	DSM-IV criteria	diagnosis recorded in medical files	44 patients with delirium (of which 21 with UTI) 44 patients without delirium (of which 2 with UTI) OR: 19.17; 95% CI 4.12 - 89.16 p-value $<$ 0.001 (0,000165541776308231)
Wojszel, 2018 Poland	Cohort, prospective	286 patients age \geq 60 years median age in patients with UTI 84 (IQR 77-88) median age in patients without UTI 83 (IQR 78-87) male: 37.4 %	clinical	Delirium Observation Screening (DOS) Scale	microbiological urine tests (urine culture) and presence of UTI symptoms: A UTI was defined as the presence of a positive urine culture (uncontaminated	45 patients with UTI (of which 13 with delirium) 241 patients without UTI (of which 36 with delirium) OR: 2.31; 95% CI 1.11 - 4.83 p-value 0.025

					midstream urine sample) accompanied by urinary symptoms (complaints of dysuria, increased frequency of urination, urgency, and/or abdominal discomfort, and/or presence of fever (> 38.0 °C), flank or low back pain) and included the occurrence of 10 ⁵ CFUs/mL or more of a urinary pathogen in a specimen (or 10 ³ CFUs/mL or more if the urinary sample was catheterized).	
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^a full study reference is provided in the reference section in the main text of the publication

List of abbreviations in alphabetical order: CFU: colony-forming unit; CI: confidence interval; DSM: Diagnostic and Statistical Manual of Mental Disorders (number refers to the edition); ICD: International Classification of Diseases (number refers to the edition); IQR: interquartile range; OR: odds ratio; SD: standard deviation; UTI: urinary tract infection.

Supplementary Table S2

Characteristics of the only included study reporting an association between delirium and asymptomatic bacteriuria in adults aged 65 years and over

First author, year ^a, study country	Study design	Number of participants, age of participants, % of male of participants	Study setting	Diagnosis of delirium	Diagnosis of AB	Results
Gau, 2009 USA	Case-control, retrospective	192 patients age ≥ 65 years mean age 82.3 SD 8.0 male: 21.9 %	clinical	diagnosis recorded in medical files	absence of UTI symptoms in combination with urinalysis results demonstrating at least 50,000 CFU per milliliter of a single uropathogen, pyuria (urine leukocyte count of at least 2 neutrophils per high power field of spun urine), or nitrite positive test results.	50 patients with AB (of which 6 with delirium) 142 patients without AB (of which 11 with delirium) OR: 1.62; 95% CI: 0.57 - 4.65 p-value: 0.366

^a full study reference is provided in the reference section in the main text of the publication

List of abbreviations in alphabetical order: AB: asymptomatic bacteriuria; CFU: colony-forming unit; CI: confidence interval; OR: odds ratio; SD: standard deviation, UTI: urinary tract infection.

Supplementary Table S3
The list of articles excluded at the full text screening phase
with indication of reasons for exclusion

N	Reference	Reason for exclusion
1	Abawi M, Stella PR. Incidence, Predictive Factors and Impact of Delirium after Transcatheter Aortic Valve Implantation. <i>Journal of the American College of Cardiology</i> . 2015; 66(15, Suppl B): B249. DOI: 10.1016/j.jacc.2015.08.629	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
2	Abawi M, Nijhoff F, Agostoni P, Emmelot-Vonk MH, De Vries R, Doevendans PA, Stella PR. Incidence, Predictive Factors, and Effect of Delirium After Transcatheter Aortic Valve Replacement. <i>JACC: Cardiovascular Interventions</i> . 2016; 9(2): 160-168. DOI: 10.1016/j.jcin.2015.09.037	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
3	Abdel-Halim M, Nicholson J, Hany T, Peristerakis I. Implementation of colorectal robotic surgery as part of a multidisciplinary robotic service, in a tertiary referral UK cancer centre. <i>Colorectal Disease</i> . 2018; 20: 57. DOI: 10.1111/codi.14386	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
4	Adogwa O, Elsamadicy AA, Sergesketter A, Oyeyemi D, Galan D, Vuong VD, Khalid S, Cheng J, Bagley CA, Karikari IO. The Impact of Chronic Kidney Disease on Postoperative Outcomes in Patients Undergoing Lumbar Decompression and Fusion. <i>World Neurosurgery</i> . 2018; 110: e266-e270. DOI: 10.1016/j.wneu.2017.10.147	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
5	Adunsky A, Nenaydenko O, Koren-Morag N, Puritz L, Fleissig Y, Arad M. Perioperative urinary retention, short-term functional outcome and mortality rates of elderly hip fracture patients. <i>Geriatrics and Gerontology International</i> . 2015; 15(1): 65-71. DOI: 10.1111/ggi.12229	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
6	Aguirre JA. Refresher course: Regional anesthesia to avoid postoperative cognitive dysfunction: What is the evidence? <i>Regional Anesthesia and Pain Medicine</i> . 2015; 40(5): 36-38. DOI: 10.1097/AAP.0000000000000308	Not a primary study (review/comment)
7	Ahmed S, Laurent B, Sampson EL. Risk factors for incident delirium among older people in acute hospital medical units: a systematic review and meta-analysis. <i>Age and Ageing</i> . 2014; 43(3): 326-333. DOI: 10.1093/ageing/afu022	Not a primary study (review/comment)
8	Akcam NO, Tasar PT, Ulusoy MG, Altinel C, Sarikaya OF, Sahin S, Duman S, Akcicek F, Noyan A. The effect of delirium on mortality. <i>Klinik Psikofarmakoloji Bulteni</i> . 2015; 25(Suppl 1): S129. ISSN: 1017-7833	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
9	Akula M, Badhiwala J, Jiang F, Akula Y, Hulme C, Fehlings M. Does The Morbidity & Mortality Justify Lumbar Fusion Surgery In Older Adults? <i>Global Spine Journal</i> . 2018; 8: 252S-253S. DOI: 10.1177/2192568218771072	Not a primary study (review/comment)
10	Alavi SM, Moogahi S. CONFUSION AND FEVER IN THE ELDERLY: THE NECESSITY OF LUMBAR PUNCTURE FOR CSF EXAMINATION. <i>Pakistan Journal of Medical Sciences</i> . 2008; 24(4): 520-524. ISSN: 1682-024X	No control group
11	Alfonso DT, Toussaint RJ, Alfonso BD, Strauss EJ, Steiger DT, Di Cesare PE. Nonsurgical Complications After Total Hip and Knee Arthroplasty. <i>The American journal of Orthopedics (Belle Mead, NJ)</i> . 2006; 35(11): 503-510. PMID: 17152971	Not a primary study (review/comment)
12	Aligue J, Baraldes A, Fons P, Bustamante E, Vives T, Guell I, Perez R. Home hospitalization unit: A cohort of 68	No associations of interest: the study does not report delirium

	nonagenarian patients. <i>European Geriatric Medicine</i> . 2011; 2: S50. DOI: 10.1016/j.eurger.2011.06.002	
13	Al-Khaled M, Matthis C, Eggers J. Stroke Complications: Incidence and Effects on Stroke Outcomes-Data from the Stroke Registry in the Federal State in Schleswig-Holstein, Germany. <i>Neurology [Conference Publication: 65th American Academy of Neurology Annual Meeting. San Diego, CA United States]</i> . 2013; 80(7, Supplement): P04.071. ISSN: 0028-3878	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
14	Alvarez-Nebreda M, Maranon E, Gonzalez de Villaumbrosia C, Gallego E, Gracia Y, Serra J. In-hospital mortality of elderly patients with hip fracture: clinical profile by causality. <i>Journal of the American Geriatrics Society</i> . 2010; 58: S73. DOI: 10.1111/j.1532-5415.2010.02850.x	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
15	Anand AK, Kumar N, Gambhir IS. Clinicomicrobiological profile of the Indian elderly with sepsis. <i>Annals of Tropical Medicine and Public Health</i> . 2016; 9(5): 316-320. DOI: 10.4103/1755-6783.188525	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
16	Aslaner MA, Boz M, Boz M, Celik A, Ahmedali A, Eroglu S, Metin Aksu N, Eroglu SE. Etiologies and delirium rates of elderly ED patients with acutely altered mental status: a multicenter prospective study. <i>American Journal of Emergency Medicine</i> . 2017; 35(1): 71-76. DOI: 10.1016/j.ajem.2016.10.004	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
17	Asleh K, Sever R, Hilu S, Ron R, Gold A, Aharon M, Salai M, Justo D. Association Between Low Admission Norton Scale Scores and Postoperative Complications After Elective THA in Elderly Patients. <i>Orthopedics</i> . 2012; 35(9): e1302-e1306. DOI: 10.3928/01477447-20120822-13	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
18	Assantachai P, Suwanagool S, Gherunpong V, Charoensook B. Urinary Tract Infection in the Elderly: A Clinical Study. <i>Journal of the Medical Association of Thailand</i> . 1997; 80(12): 753-759. PMID: 9470327	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
19	Assi MJ, Shaughnessy M. Demystifying delirium. <i>The American Nurse</i> . 2015; 47(4): 12. PMID: 26399081	Not a primary study (review/comment)
20	Atalay A, Mete G, Turhan N. THE EFFECT OF COMPLICATIONS ON REHABILITATION OUTCOME IN FIRST-EVER ISCHEMIC STROKE PATIENTS. <i>Cerebrovascular Diseases</i> . 2009; 27 (Suppl 6): 216. DOI: 10.1159/000221781	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
21	Avelino-Silva TJ, Farfel JM, Curiati JA, Amaral JR, Campora F, Jacob-Filho W. Comprehensive geriatric assessment predicts mortality and adverse outcomes in hospitalized older adults. <i>BMC Geriatrics</i> . 2014; 14: 129. DOI: 10.1186/1471-2318-14-129	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
22	Avelino-Silva TJ, Farfel JM, Esper Curiati JA, Das Gracias Amaral JR, Campora F, Jacob-Filho W. Comprehensive Geriatric Assessment predicts mortality and adverse outcomes in hospitalized older adults. <i>Journal of the American Geriatrics Society</i> . 2015; 63: S80-S81. DOI: 10.1111/jgs.13439	Repetitive publication. The same data is provided in the article: Avelino-Silva TJ, Farfel JM, Curiati JA, Amaral JR, Campora F, Jacob-Filho W. Comprehensive geriatric assessment predicts mortality and adverse outcomes in hospitalized older adults. <i>BMC Geriatrics</i> . 2014; 14: 129. DOI: 10.1186/1471-2318-14-129
23	Awad MI, Shuman AG, Montero PH, Palmer FL, Shah JP, Patel SG. Accuracy of administrative and clinical registry data in reporting postoperative complications after surgery for oral cavity squamous cell carcinoma. <i>Head and Neck</i> . 2015; 37(6): 851-861. DOI: 10.1002/hed.23682	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

24	Baeksted Jorgensen B, Gregersen M, Damsgaard EM. Is it possible to use physical-functional tests in an emergency department? <i>European Geriatric Medicine</i> . 2016; 7(Suppl 1): S36. ISSN: 1878-7649	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
25	Bagnall NM, Malietzis G, Kennedy RH, Athanasiou T, Faiz O, Darzi A. A systematic review of enhanced recovery care after colorectal surgery in elderly patients. <i>Colorectal Disease</i> . 2014; 16(12): 947-956. DOI: 10.1111/codi.12718	Not a primary study (review/comment)
26	Bail K, Berry H, Grealish L, Draper B, Karmel R, Gibson D, Peut A. Potentially preventable complications of urinary tract infections, pressure areas, pneumonia, and delirium in hospitalised dementia patients: retrospective cohort study. <i>BMJ Open</i> . 2013; 3(6): e002770. DOI: 10.1136/bmjopen-2013-002770	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
27	Bail K, Goss J, Draper B, Berry H, Karmel R, Gibson D. The cost of hospital-acquired complications for older people with and without dementia; a retrospective cohort study. <i>BMC Health Services Research</i> . 2015; 15: 91. DOI: 10.1186/s12913-015-0743-1	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
28	Bail K. 'FAILURE TO MAINTAIN' DEMENTIA PATIENTS IN HOSPITAL: A NEW METHOD OF QUALITY OUTCOME MEASUREMENT RELATED TO NURSING CARE. <i>Alzheimer's and Dementia</i> . 2016; 12(7): P222. DOI: 10.1016/j.jalz.2016.06.396	Repetitive publication. The same data is provided in the article: Bail K, Grealish L. 'Failure to Maintain': A theoretical proposition for a new quality indicator of nurse care rationing for complex older people in hospital. <i>International Journal of Nursing Studies</i> . 2016; 63: 146-161. DOI: 10.1016/j.ijnurstu.2016.08.001
29	Bail K, Grealish L. 'Failure to Maintain': A theoretical proposition for a new quality indicator of nurse care rationing for complex older people in hospital. <i>International Journal of Nursing Studies</i> . 2016; 63: 146-161. DOI: 10.1016/j.ijnurstu.2016.08.001	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
30	Bail K, Draper B, Berry H, Karmel R, Goss J. Predicting excess cost for older inpatients with clinical complexity: A retrospective cohort study examining cognition, comorbidities and complications. <i>PLoS ONE</i> . 2018; 13(2): e0193319. DOI: 10.1371/journal.pone.0193319	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
31	Balasubramaniam M, Alici Y. Frequency of delirium and factors contributing to misdiagnosis among elderly patients admitted to an inpatient geriatric psychiatry unit. <i>American Journal of Geriatric Psychiatry</i> . 2012; 20(3, Suppl 1): S80-S81. DOI: 10.1097/01.JGP.0000413063.91948.64	Loss of quantitative data, the authors could not be contacted
32	Balogun S, Philbrick JT. Delirium, A Symptom of UTI in the Elderly: Fact or Fable? A Systematic Review. <i>Journal of the American Medical Directors Association</i> . 2013; 14(3): B21. DOI: 10.1016/j.jamda.2012.12.059	Repetitive publication. The same data is provided in the article: Balogun SA, Philbrick JT. Delirium, a Symptom of UTI in the Elderly: Fact or Fable? A Systematic Review. <i>Canadian Geriatrics Journal</i> . 2013; 17(1): 22-26. DOI: 10.5770/cgj.17.90
33	Balogun SA, Philbrick JT. Delirium, a Symptom of UTI in the Elderly: Fact or Fable? A Systematic Review. <i>Canadian Geriatrics Journal</i> . 2014; 17(1): 22-26. DOI: 10.5770/cgj.17.90	Not a primary study (review/comment)
34	Bandara S, Lynch G, Cooke C, Varghese P, Ward N. Using Care Bundles to Improve Surgical Outcomes and Reduce Variation in Care for Fragility Hip Fracture Patients. <i>Geriatric Orthopaedic Surgery and Rehabilitation</i> . 2017; 8(2): 104-108. DOI: 10.1177/2151458516681634	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
35	Barcelo M, Comas MT, Fuster G, Prats R, Gelpi M, Ruiz D. Differences between patients with and without delirium in	Loss of quantitative data, the authors could not be contacted

	geriatric ward. <i>European Geriatric Medicine</i> . 2011; 2: S5. DOI: 10.1016/j.eurger.2011.06.003	
36	Barkham TMS, Martin FC, Eykyn SJ. Delay in the Diagnosis of Bacteraemic Urinary Tract Infection in Elderly Patients. <i>Age and Ageing</i> . 1996; 25(2): 130-132. DOI: 10.1093/ageing/25.2.130	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
37	Bartha E, Davidson T, Berg HE, Kalman S. A 1-year perspective on goal-directed therapy in elderly with hip fracture: Secondary outcomes. <i>Acta Anaesthesiologica Scandinavica</i> . 2019; 63(5): 610-614. DOI: 10.1111/aas.13320	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
38	Beaupre LA, Cinats JG, Senthilselvan A, Lier D, Jones CA, Scharfenberger A, Johnston DWC, Saunders LD. Reduced morbidity for elderly patients with a hip fracture after implementation of a perioperative evidence-based clinical pathway. <i>Quality and Safety in Health Care</i> . 2006; 15(5): 375-379. DOI: 10.1136/qshc.2005.017095	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
39	Becker P, Bretschneider W, Tuschel A, Ogon M. Life Quality After Instrumented Lumbar Fusion in the Elderly. <i>Spine</i> . 2010; 35(15): 1478-1481. DOI: 10.1097/BRS.0b013e3181c62294	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
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41	Beloosesky Y, Hershkovitz A, Solovey B, Salai M, Weiss A. Hip fracture post-operation dysnatremia and Na ⁺ -courses in different cognitive and functional patient groups. <i>Archives of Gerontology and Geriatrics</i> . 2011; 53(2): 179-182. DOI: 10.1016/j.archger.2010.10.014	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
42	Beloosesky Y, Weiss A, Hershkovitz A, Hendel D, Barak V. Serum transforming growth factor beta-1 post hip fracture repair in elderly patients. <i>Cytokine</i> . 2011; 54(1): 56-60. DOI: 10.1016/j.cyto.2010.12.015	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
43	Berkovich R, Fernandez M, Subhani D. Monthly pulse adrenocorticotrophic hormone or methylprednisolone therapy for long-term treatment of multiple sclerosis as an add-on therapy to beta-interferons: interim results from a pilot study. <i>Multiple Sclerosis Journal</i> . 2011; 17(10): S249-S250. DOI: 10.1177/1352458511422300	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
44	Berry SD, Samelson EJ, Bordes M, Broe K, Kiel DP. Survival of Aged Nursing Home Residents With Hip Fracture. <i>The Journals of Gerontology Series A: Biological Sciences and Medical Sciences</i> . 2009; 64A(7): 771-777. DOI: 10.1093/gerona/64p019	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
45	Bert ES, Cortiella A, Gomez P, Florensa J, Puig JM, Veciana L, Jorda G, Forcada IG, Garcia MC, Molto E, Qanneta R. Implementation of an orthogeriatric program. Results of the first two years. <i>International Journal of Integrated Care (IJIC)</i> . 2016; 16(6): A9, 1-8. DOI: 10.5334/ijic.2952	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
46	Beumer D, van Boxtel TH, Schipperen S, van Zwam WH, Lycklama a Nijeholt GJ, Brouwer PA, Jenniskens SFM, Schonewille WJ, Vos JA, van der Lugt A, Roos YB, Majoie CB, van Oostenbrugge RJ, Dippel DWJ. The relationship between interventionists' experience and clinical and radiological outcome in intra-arterial treatment for acute ischemic stroke. A MR CLEAN pretrial survey. <i>Journal of the Neurological Sciences</i> . 2017; 377: 97-101. DOI: 10.1016/j.jns.2017.04.002	No associations of interest: the study reports neither delirium nor UTI/asymptomatic bacteriuria

47	Bhagat R, Bronsert MR, Juarez-Colunga E, Weyant MJ, Mitchell JD, Glebova NO, Henderson WG, Fullerton D, Meguid RA. Postoperative Complications Drive Unplanned Readmissions after Esophagectomy for Cancer. <i>The Annals of Thoracic Surgery</i> . 2018; 105(5): 1476-1482. DOI: 10.1016/j.athoracsur.2017.12.024	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
48	Bhandari M, Koo H, Saunders L, Shaughnessy SG, Dunlop RB, Schemitsch EH. Predictors of In-Hospital Mortality Following Operative Management of Hip Fractures. <i>International Journal of Surgical Investigation</i> . 1999; 1(4): 319-326. PMID: 12774456	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
49	Bhattacharya B, Maung A, Barre K, Maerz L, Rodriguez-Davalos MI, Schilsky M, Mulligan DC, Davis KA. Postoperative delirium is associated with increased intensive care unit and hospital length of stays after liver transplantation. <i>Journal of Surgical Research</i> . 2017; 207: 223-228. DOI: 10.1016/j.jss.2016.08.084	Wrong age group
50	Bhattacharya B, Rodriguez-Davalos MI, Maerz L, Maung A, Schilsky M, Mulligan DC, Davis KA. Post-Operative Delirium is Associated with Increased ICU and Hospital Length of Stays Following Liver Transplantation. 2016; 100: S106. DOI: 10.1097/01.tp.0000483259.57907.d4	Repetitive publication. The same data is provided in the article: Bhattacharya B, Maung A, Barre K, Maerz L, Rodriguez-Davalos MI, Schilsky M, Mulligan DC, Davis KA. Postoperative delirium is associated with increased intensive care unit and hospital length of stays after liver transplantation. <i>Journal of Surgical Research</i> . 2017; 207: 223-228. DOI: 10.1016/j.jss.2016.08.084
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52	Bickel H, Hendlmeier I, Hessler JB, Junge MN, Leonhardt-Achilles S, Weber J, Schaeufele M. The Prevalence of Dementia and Cognitive Impairment in Hospitals. <i>Deutsches Arzteblatt International</i> . 2018; 115(44): 733-740. DOI: 10.3238/arztebl.2018.0733	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
53	Bitsch MS, Foss NB, Kristensen BB, Kehlet H. Acute cognitive dysfunction after hip fracture: frequency and risk factors in an optimized, multimodal, rehabilitation program. <i>Acta Anaesthesiologica Scandinavica</i> . 2006; 50(4): 428-436. DOI: 10.1111/j.1399-6576.2005.00899.x	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
54	Blake RY, Fairfield K, Wierman H, Marino R. Factors associated with acute care readmissions from a skilled nursing facility. <i>Journal of the American Geriatrics Society</i> . 2012; 60: S187. DOI: 10.1111/j.1532-5415.2012.04000.x	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
55	Blodgett TJ. The reliability and diagnostic validity of clinical manifestations of catheter-associated urinary tract infection in hospitalized adults: a pilot study. Dissertation, University of Iowa. 2013. DOI: 10.17077/etd.mwuoozpa	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
56	Blodgett TJ, Gardner SE, Blodgett NP, Peterson LV, Pietraszak M. A Tool to Assess the Signs and Symptoms of Catheter-Associated Urinary Tract Infection: Development and Reliability. <i>Clinical Nursing Research</i> . 2014; 24(4): 341-356. DOI: 10.1177/1054773814550506	No control group
57	Blom BJ, van Dis H, Simons MP, Willems WJ. The Relationship Between Surgical Delay for a Hip Fracture and the Complication Risk. [Dutch]. <i>Nederlands Tijdschrift voor Geneeskunde</i> . 2007; 151(37): 2050-2054. PMID: 17929715	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
58	Boettcher WG. Total Hip Arthroplasties in the Elderly: Morbidity, Mortality, and Cost Effectiveness. <i>Clinical</i>	No associations of interest: the study reports delirium and UTI/asymptomatic

	Orthopaedics and Related Research. 1992; (274): 30-34. PMID: 1729017	bacteriuria, but not in relation to each other
59	Boockvar K, Signor D, Ramaswamy R, Hung W. Delirium During Acute Illness in Nursing Home Residents. Journal of the American Medical Directors Association. 2013; 14(9): 656-660. DOI: 10.1016/j.jamda.2013.06.004	Loss of quantitative data (the study reports data about acute illness episodes and not about rates of UTI or asymptomatic bacteriuria in patients with and without delirium)
60	Boockvar KS, Hung W, Liu S, Siegel J, Kwak J, Singleton J, Signor D. Delirium during Acute Illness (AI) in Nursing Home Residents. Journal of the American Geriatrics Society. 2011; 59: S16. DOI: 10.1111/j.1532-5415.2011.03415.x	Repetitive publication. The same data is provided in the article: Boockvar K, Signor D, Ramaswamy R, Hung W. Delirium During Acute Illness in Nursing Home Residents. Journal of the American Medical Directors Association. 2013; 14(9): 656-660. DOI: 10.1016/j.jamda.2013.06.004
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62	Bourassa-Moreau E, Versteeg A, Moskven E, Charest-Morin R, Flexman A, Ailon T, Dalkilic T, Fisher C, Dea N, Boyd M, Paquette S, Kwon B, Dvorak M, Street J. Sarcopenia, but not frailty predicts early mortality and adverse events after emergent surgery for metastatic disease of the spine. The Spine Journal. 2020; 20: 22-31. DOI: 10.1016/j.spinee.2019.08.012	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
63	Brodak M, Tomasek J, Pacovsky J, Hholub L, Husek P. Urological surgery in elderly patients: results and complications. Clinical Interventions in Aging. 2015; 10: 379-385. DOI: 10.2147/CIA.S73381	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
64	Brown CA, Boling J, Manson M, Owens T, Zura R. Relation Between Prefracture Characteristics and Perioperative Complications in the Elderly Adult Patient with Hip Fracture. Southern Medical Journal. 2012; 105(6): 306-310. DOI: 10.1097/SMJ.0b013e3182574bfd	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
65	Brunelli A, Drosos P, Ismail H, Pompili C, Bassi V. Factors associated with postoperative costs following anatomic lung resections without major complications. European Journal of Cardio-Thoracic Surgery. 2017; 51(2): 230-235. DOI: 10.1093/ejcts/ezw307	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
66	Cahill CW, Schwarzkopf R, Sinha S, Scott RD. Simultaneous Bilateral Knee Arthroplasty in Octogenarians: Can It Be Safe and Effective? The Journal of Arthroplasty. 2014; 29(5): 998-1000. DOI: 10.1016/j.arth.2013.10.026	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
67	Caljouw MA, den Elzen WP, Cools HJ, Gussekloo J. Predictive factors of urinary tract infections among the oldest old in the general population. a population-based prospective follow-up study. BMC Medicine. 2011; 9:57. DOI: 10.1186/1741-7015-9-57	No associations of interest: the study does not report delirium
68	Campion EW, Jette AM, Cleary PD, Harris BA. Hip Fracture: A Prospective Study of Hospital Course, Complications, and Costs. Journal of General Internal Medicine. 1987; 2(2): 78-82. DOI: 10.1007/bf02596300	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
69	Carbone LD, Chin AS, Burns SP, Svircev JN, Hoenig H, Heggeness M, Weaver F. Morbidity following lower extremity fractures in men with spinal cord injury. Osteoporosis International. 2013; 24(8): 2261-2267. DOI: 10.1007/s00198-013-2295-8	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

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71	Ceravolo MJ, Alfano C, Geniere Nigra S, Cuzzoni G, Venturini L, Ricevuti G. Delirium in a geriatric population suffering from dementia: Complication or picture at the onset? <i>European Geriatric Medicine</i> . 2017; 8(1): S86. ISSN: 1878-7649	Loss of quantitative data, the authors could not be contacted
72	Chae JHJ, Miller BJ. Beyond Urinary Tract Infections (UTIs) and Delirium: A Systematic Review of UTIs and Neuropsychiatric Disorders. <i>Journal of Psychiatric Practice</i> . 2015; 21(6): 402-411. DOI: 10.1097/PRA.000000000000105	Not a primary study (review/comment)
73	Chan KC, Gill GS. Cemented Hemiarthroplasties for Elderly Patients With Intertrochanteric Fractures. <i>Clinical Orthopaedics and Related Research</i> . 2000; 371: 206-215. DOI: 10.1097/00003086-200002000-00025	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
74	Chang CC, Lin PH, Chang YT, Chen NC, Huang CW, Lui CC, Huang SH, Chang YH, Lee CC, Lai WA. The Impact of Admission Etiology on Recurrent or Frequent Admission. A Hospital-Based Cohort Comparing Three Dementia Subtypes with 4 Years Longitudinal Follow-ups. <i>Medicine (United States)</i> . 2015; 94(46): e2091. DOI: 10.1097/MD.0000000000002091	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
75	Chen BY, Cote R, Vieira L, Benjamin L, Legault C. Delays in the Emergency Department, Medical Complications of Stroke and Predictors of Clinical Outcomes: The McGill experience. <i>Neurology [Conference Publication: 68th American Academy of Neurology Annual Meeting, Vancouver, BC, Canada]</i> . 2016; 86 (16, Supplement): P2.310. ISSN: 0028-3878	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
76	Cheung A, Street J, Noonan V, Cartar L, Dvorak M. Incidence and Impact of Acute Adverse Events in Patients with Traumatic Spinal Cord Injury. <i>The Spine Journal</i> . 2011; 11(10): 2S. DOI: 10.1016/j.spinee.2011.08.018	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
77	Chit Lwin S, Goh KS, Poon KB, Chow WL. Preliminary Evaluation of Valued Care Hip Fracture Programme in Changi General Hospital (CGH). <i>Annals of the Academy of Medicine Singapore</i> . 2016; 45(9): S44. ISSN: 0304-4602	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
78	Cho KJ, Suk SI, Park SR, Kim JH, Kim SS, Choi WK, Lee KY, Lee SR. Complications in Posterior Fusion and Instrumentation for Degenerative Lumbar Scoliosis. <i>Spine</i> . 2007; 32(20): 2232-2237. DOI: 10.1097/BRS.0b013e31814b2d3c	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
79	Choi JY, Yoon SJ, Kim SW, Jung HW, Kim KI, Kang E, Kim SW, Han HS, Kim CH. Prediction of Postoperative Complications Using Multidimensional Frailty Score in Older Female Cancer Patients with American Society of Anesthesiologists Physical Status Class 1 or 2. <i>Journal of the American College of Surgeons</i> . 2015; 221(3): 652-660. DOI: 10.1016/j.jamcollsurg.2015.06.011	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
80	Choi JY, Cho KJ, Kim S, Yoon SJ, Kang M, Kim K, Lee YK, Koo KH, Kim CH. Prediction of Mortality and Postoperative Complications using the Hip-Multidimensional Frailty Score in Elderly Patients with Hip Fracture. <i>Scientific Reports</i> . 2017; 7: 42966. DOI: 10.1038/srep42966	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

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82	Chong CPW, Savage JA, Lim WK. Medical problems in hip fracture patients. Archives of Orthopaedic and Trauma Surgery. 2010; 130(11): 1355-1361. DOI: 10.1007/s00402-009-1038-y	Not a primary study (review/comment)
83	Chu C, Griffiths P, Asquith P, Naidoo C, Horsley J, McDonald P. 9 HOW ACCURATE IS OUR DIAGNOSIS OF A URINARY TRACT INFECTION? Age and Ageing. 2014; 43(Suppl 1): i2-i3. DOI: 10.1093/ageing/afu036.9	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
84	Churchill C. COGNITIVE IMPAIRMENT AND FALLS IN THE OLDER ADULT POPULATION: INCIDENCE AND OUTCOMES IN A LEVEL ONE TRAUMA CENTER. Dissertation, University of North Carolina at Charlotte. 2014.	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
85	Churchill C, Seymour R, Patt J, Karunakar M. Outcomes of Cognitively Impaired Hip Fracture Patients at a Level One Trauma Center. Journal of the American Geriatrics Society. 2016; 64: S216-S217. DOI: 10.1111/jgs.14231	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
86	Cleary M, Smithwick S, Keesling S, Riggs A, Podrazik P, Simmons S, Caradine D, Mendiratta P, Mohammed A, Azhar G, Wei J. Effective reduction of 30-day hospital readmission rates. Journal of the American Geriatrics Society. 2013; 61: S174. DOI: 10.1111/jgs.12263	No associations of interest: the study reports neither delirium nor UTI/asymptomatic bacteriuria
87	Cogdill BR, Ross CA, Hurst JM, Garrison KL, Drayton SJ, Wisniewski CS. EVALUATION OF URINALYSES ORDERED FOR DIAGNOSIS OF URINARY TRACT INFECTIONS AT AN INPATIENT PSYCHIATRIC HOSPITAL. The International Journal of Psychiatry in Medicine. 2014; 47(1): 17-24. DOI: 10.2190/PM.47.1.b	Wrong age group
88	Cole PA, Gilbertson JA, Cole PA. Functional Outcomes of Operative Management of Scapula Fractures in a Geriatric Cohort. Journal of Orthopaedic Trauma. 2017; 31(1): e1-e8. DOI: 10.1097/BOT.0000000000000710	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
89	Colprim D, Calle A, Robles MAJ, Cervera AMA, Miralles R. Incidence of nosocomial infections in an intermediate and long-term care unit: psychophysical decline as an atypical clinical manifestation. European Geriatric Medicine. 2010; 1: S137-S138. DOI: 10.1016/j.eurger.2010.07.009	Loss of quantitative data, the authors could not be contacted
90	Contin AM, Perez-Jara J, Alonso-Contin A, Enguix A, Ramos F. Postoperative delirium after elective orthopedic surgery. International Journal of Geriatric Psychiatry. 2005; 20(6): 595-597. DOI: 10.1002/gps.1335	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
91	Copanitsanou P, Grivas TB. Nursing Care of Hospitalised Orthopaedic Patients. [Greek]. Scientific Chronicles. 2018; 23(2): 122-137. DOI: 10.11212/exronika/2018.2.2	Not a primary study (review/comment)
92	Cortes-Penfield NW, Trautner BW, Jump RLP. Urinary Tract Infection and Asymptomatic Bacteriuria in Older Adults. Infectious Disease Clinics of North America. 2017; 31(4): 673-688. DOI: 10.1016/j.idc.2017.07.002	Not a primary study (review/comment)
93	Costa CDAO, Camargo JJ, Schio SM, Melo IA, Machuca T, Sanchez L, Camargo SM, Perin FA, Felicetti JC, Nogueira A, Lobato V. Experience in the intensive management of early postoperative lung transplantation patients of the Complexo Hospitalar Santa Casa Group of Porto Alegre, Brazil. Critical Care [Conference Publication: Fifth International Symposium on Intensive Care and Emergency	No associations of interest: the study does not report UTI or asymptomatic bacteriuria

	Medicine for Latin America, Sao Paulo, Brazil]. 2009; 13(Suppl 3): P38. DOI: 10.1186/cc7840	
94	Coventry LL, Pickles S, Sin M, Towell A, Giles M, Murray K, Twigg DE. Impact of the Orthopaedic Nurse Practitioner role on acute hospital length of stay and cost-savings for patients with hip fracture: A retrospective cohort study. <i>Journal of Advanced Nursing</i> . 2017; 73(11): 2652-2663. DOI: 10.1111/jan.13330	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
95	Cuciureanu I, Cuciureanu T. Acute confusional state and recovery in aged patient with vascular risk factors in neurology unit - A challenging etiology. <i>International Journal of Stroke</i> . 2015; 10(2 supplement): 377. DOI: 10.1111/ijss.12479	No control group
96	Cuesta-Peredo D, Arteaga-Moreno F, Belenguer-Varea A, Llopis-Calatayud JE, Sivera-Gimeno S, Santaegenia SJ, Avellana-Zaragoza JA, Tarazona-Santabalbina FJ. Influence of hospital adverse events and previous diagnoses on hospital care cost of patients with hip fracture. <i>Archives of Osteoporosis</i> . 2019; 14:88. DOI: 10.1007/s11657-019-0638-6	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
97	Culp K, Tripp-Reimer T, Wadle K, Wakefield B, Akins J, Mobily P, Kundratt M. Screening for Acute Confusion in Elderly Long-Term Care Residents. <i>Journal of Neuroscience Nursing</i> . 1997; 29(2): 86-100. DOI: 10.1097/01376517-199704000-00003	No control group
98	Cunha PTSD, Artifon AN, Lima DP, Marques WV, Rahal MA, Ribeiro RR, Kitadai FT. HIP FRACTURES IN THE ELDERLY: SURGICAL TREATMENT TIMING AND ITS CORRELATION WITH DELIRIUM AND INFECTION. <i>Acta Ortopédica Brasileira</i> . 2008; 16(3): 173-176. DOI: 10.1590/S1413-78522008000300010	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
99	Dahl MH, Rønning OM, Thommessen B. Delirium in acute stroke-prevalence and risk factors. <i>Acta Neurologica Scandinavica</i> . 2010; 122(Suppl 190): 39-43. DOI: 10.1111/j.1600-0404.2010.01374.x	Loss of quantitative data, the authors could not be contacted
100	Dahl M, Thommessen B, Ronning OM. DELIRIUM IN ACUTE STROKE – PREVALENCE AND RISK FACTORS. <i>Cerebrovascular Diseases</i> . 2010; 29(2): 290. DOI: 10.1159/000321266	Repetitive publication. The same data is provided in the article: Dahl MH, Rønning OM, Thommessen B. Delirium in acute stroke-prevalence and risk factors. <i>Acta Neurologica Scandinavica</i> . 2010; 122(Suppl 190): 39-43. DOI: 10.1111/j.1600-0404.2010.01374.x
101	Dasgupta M, Brymer C, Elsayed S. Treatment of asymptomatic UTI in older delirious medical in-patients: A prospective cohort study. <i>Archives of Gerontology and Geriatrics</i> . 2017; 72: 127-134. DOI: 10.1016/j.archger.2017.05.010	No control group
102	Datieva VK. Acute decompensation of Parkinson's disease. <i>Movement Disorders</i> . 2012; 27(Suppl 1): S505. DOI: 10.1002/mds.25051	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
103	De Jong L, van Rijckevorsel VAJIM, Raats JW, Klem TMAL, Kuijper TM, Roukema GR. Delirium after hip hemiarthroplasty for proximal femoral fractures in elderly patients: risk factors and clinical outcomes. <i>Clinical Interventions in Aging</i> . 2019; 14: 427-435. DOI: 10.2147/CIA.S189760	Loss of quantitative data, the authors could not be contacted
104	De Tena Fontaneda AF, Ramos Cortes MR. Admission for urinary infection in institutionalized elderly in nursing homes: Micro-organisms, complications and outcomes.	No control group

	European Geriatric Medicine. 2011; 2: S108. DOI: 10.1016/j.eurger.2011.06.002	
105	Dea N, Versteeg A, Fisher C, Kelly A, Hartig D, Boyd M, Paquette S, Kwon BK, Dvorak M, Street J. Adverse events in emergency oncological spine surgery: a prospective analysis. <i>Journal of Neurosurgery: Spine</i> . 2014; 21(5): 698-703. DOI: 10.3171/2014.7.SPINE131007	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
106	Decheva K. Operative management and clinical outcomes of cervical spine injuries in patients over 80 years of age. <i>European Spine Journal</i> . 2016; 25: 3825. DOI: 10.1007/s00586-016-4801-0	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
107	Deer T, Saulino MF, Moss R, Rauck RL, Kim P, Wallace MS, Huang IZ, Mori F, Vanhove GF, McDowell G. SUSTAINED EFFECTIVNESS OF INTRATHECAL ZICONOYIDE USE AS THE FIRST AGENT IN PUMP IN PATIENTS WITH SEVERE CHRONIC PAIN. <i>Pain Physician</i> . 2016; 19: E798-E799. ISSN: 2150-1149	No associations of interest: the study reports neither delirium nor UTI/asymptomatic bacteriuria
108	Dehn LB. CONFUSION AND BACTERIURIA IN LONG-TERM CARE FACILITY RESIDENTS. <i>Journal of the American Geriatrics Society</i> . 2018; 66(6): 1235. DOI: 10.1111/jgs.15318	Not a primary study (review/comment)
109	Diggs A, Bhatnagar A, Ferrer GF, Dabul L, Way RW, Oms J, Sanchez M. PREDICTORS OF ACUTE PSYCHOSIS IN NON-SCHIZOPHRENIC PATIENTS WITH URINARY TRACT INFECTION: INFLAMMATION AS A TRIGGER OF PSYCHOSIS. <i>Psychosomatic Medicine</i> . 2016; 78: A119-A120. DOI: 10.1097/PSY.0000000000000343	Loss of quantitative data, the authors could not be contacted
110	DiPiro CV, DiPiro JT. Urinary Tract Infections in the Elderly. <i>Journal of Geriatric Drug Therapy</i> . 1995; 10(1): 69-78. DOI: 10.1300/J089v10n01_06	Not a primary study (review/comment)
111	Dittrich T, Tschudin-Sutter S, Widmer AF, Ruegg S, Marsch S, Sutter R. Risk factors for new-onset delirium in patients with bloodstream infections: independent and quantitative effect of catheters and drainages - a four-year cohort study. <i>Annals of Intensive Care</i> . 2016; 6(1): 104. DOI: 10.1186/s13613-016-0205-x	No associations of interest: the study does not report UTI or asymptomatic bacteriuria (there are only indications of the urogenital tract as a source of bloodstream infection)
112	Domka E, Myjkowska E, Kwolek A. Incidence of neuromedical complications during rehabilitation after stroke. [Polish]. <i>Neurologia i Neurochirurgia Polska</i> . 2005; 39(4): 300-309. PMID: 16096935	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
113	Donegan DJ, Gay AN, Baldwin K, Morales EE, Esterhai Jr JL, Mehta S. Use of Medical Comorbidities to Predict Complications After Hip Fracture Surgery in the Elderly. <i>The Journal of Bone and Joint Surgery – American Volume</i> . 2010; 92(4): 807-813. DOI: 10.2106/JBJS.I.00571	No associations of interest: the study reports neither delirium nor UTI/asymptomatic bacteriuria
114	Dong J, Yang Y, Chen Z, Yu M, Liu B, Wang Q, Xie P, Chen R, Rong L. Comparative study of microendoscope-assisted and conventional minimally invasive transforaminal lumbar interbody fusion for degenerative lumbar diseases. [Chinese]. <i>Chinese journal of reparative and reconstructive surgery</i> . 2019; 33(7): 814-821. DOI: 10.7507/1002-1892.201903112	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
115	Dorman T, Adamczyk E, Synder M, Sibinski M. Elective total hip arthroplasty for patients 75 years of age and older. [Polish]. <i>Chirurgia Narzadow Ruchu i Ortopedia Polska</i> . 2008; 73(3): 163-166. PMID: 18847021	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
116	Dovjak P, Iglseder B, Mikosch P, Gosch M, Muller E, Pinter G, Pils K, Gerstofer I, Thaler H, Zmaritz M, Weissenberger-Leduc M, Muller W. Treatment and prevention of postoperative complications in hip fracture patients: infections and delirium. <i>Wiener Medizinische</i>	Not a primary study (review/comment)

	Wochenschrift. 2013; 163: 448-454. DOI: 10.1007/s10354-013-0228-y	
117	Ducharme J, Neilson S, Ginn JL. Can urine cultures and reagent test strips be used to diagnose urinary tract infection in elderly emergency department patients without focal urinary symptoms? Canadian Journal of Emergency Medicine. 2007; 9(2): 87-92. DOI: 10.1017/s1481803500014846	No associations of interest: the study does not report delirium
118	Dupuis M, Guay L, Therrien J, Garant MP, Beaudoin A, Lemay F. Adjuvant Chemotherapy in Elderly Patients with Colon Cancer: A Retrospective Study. The American Journal of Gastroenterology. 2013; 108: S176. DOI: 10.1038/ajg.2013.266	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
119	Dylan F, Byrne G, Mudge AM. Delirium risk in non-surgical patients: systematic review of predictive tools. Archives of Gerontology and Geriatrics. 2019; 83: 292-302. DOI: 10.1016/j.archger.2019.05.013	Not a primary study (review/comment)
120	Eide LSP, Ranhoff AH, Lauck S, Fridlund B, Haaverstad R, Hufthammer KO, Kuiper KJ, Nordrehaug JE, Norekval TM. Indwelling urinary catheters, aortic valve treatment and delirium: a prospective cohort study. BMJ Open. 2018; 8:e021708. DOI: 10.1136/bmjopen-2018-021708	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
121	Elsamadicy AA, Adogwa O, Lydon E, Sergesketter A, Kaakati R, Mehta AI, Vasquez RA, Cheng J, Bagley CA, Karikari IO. Depression as an independent predictor of postoperative delirium in spine deformity patients undergoing elective spine surgery. Journal of Neurosurgery: Spine. 2017; 27(2): 209-214. DOI: 10.3171/2017.4.SPINE161012	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
122	Elsamadicy AA, Adogwa O, Reddy GB, Sergesketter A, Warwick H, Jones T, Cheng J, Bagley CA, Karikari IO. Risk Factors and Independent Predictors of 30-Day Readmission for Altered Mental Status After Elective Spine Surgery for Spine Deformity: A Single-Institutional Study of 1090 Patients. World Neurosurgery. 2017; 101: 270-274. DOI: 10.1016/j.wneu.2017.02.001	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
123	Elsamadicy AA, Adogwa O, Sergesketter A, Hobbs C, Behrens S, Mehta AI, Vasquez RA, Cheng J, Bagley CA, Karikari IO. Impact of Race on 30-Day Complication Rates after Elective Complex Spinal Fusion (≥ 5 Levels): A Single Institutional Study of 446 Patients. World Neurosurgery. 2017; 99: 418-423. DOI: 10.1016/j.wneu.2016.12.029	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
124	Elsamadicy AA, Adogwa O, Warwick H, Sergesketter A, Lydon E, Shammas RL, Mehta AL, Vasquez RA, Cheng J, Bagley CA, Karikari IO. Increased 30-Day Complication Rates Associated with Laminectomy in 874 Adult Spine Deformity Patients Undergoing Elective Spinal Fusion: A Single Institutional Study. World Neurosurgery. 2017; 102: 370-375. DOI: 10.1016/j.wneu.2017.03.096	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
125	Elsamadicy AA, Adogwa O, Ongele M, Sergesketter AR, Tarnasky A, Lubkin DET, Drysdale N, Cheng J, Bagley CA, Karikari IO. Preoperative Hemoglobin Level is Associated with Increased Health Care Use After Elective Spinal Fusion (≥ 3 Levels) in Elderly Male Patients with Spine Deformity. World Neurosurgery. 2018; 112: e348-e354. DOI: 10.1016/j.wneu.2018.01.046	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
126	Elsamadicy AA, Sergesketter A, Adogwa O, Ongele M, Gottfried ON. Complications and 30-Day readmission rates after craniotomy/craniectomy: A single Institutional study of 243 consecutive patients. Journal of Clinical Neuroscience. 2018; 47: 178-182. DOI: 10.1016/j.jocn.2017.09.021	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

127	Eriksson I. Urinary tract infection - a serious health problem in old women. Dissertation, Umeå University. 2011. ISBN: 978-91-7459-164-4	Repetitive publication. The same data is provided in the article: Eriksson I, Gustafson Y, Fagerström L, Olofsson B. Urinary tract infection in very old women is associated with delirium. <i>International Psychogeriatrics</i> . 2011; 23(03): 496-502. DOI: 10.1017/S1041610210001456
128	Espauella J, Guyer H, Diaz-Escriu F, Mellado-Navas JA, Castells M, Pladevall M. Nutritional supplementation of elderly hip fracture patients. A randomized, double-blind, placebo-controlled trial. <i>Age and Ageing</i> . 2000; 29(5): 425-431. DOI: 10.1093/ageing/29.5.425	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
129	Espina-Perez B, Caro-Tarrago A, Vallverdu-Rivero A, Feliu-Villaro F, Escuder-Perez J, Sole-Baiges T, Jorba-Martín R, Millan-Scheidig M. A tailored prehabilitation-ERAS programme improves postoperative outcomes in elderly patients with colorectal cancer. <i>Colorectal Disease</i> . 2018; 20(Suppl 4): 62. DOI: 10.1111/%28ISSN%291463-1318	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
130	Estabrooks CA, Hoben M, Poss JW, Chamberlain SA, Thompson GN, Silviu JL, Norton PG. Dying in a Nursing Home: Treatable Symptom Burden and its Link to Modifiable Features of Work Context. <i>Journal of the American Medical Directors Association</i> . 2015; 16(6): 515-520. DOI: 10.1016/j.jamda.2015.02.007	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
131	Everson J, Gupta P, Kaneshamoorthy M, Jegard J, Bafadhel L. URINALYSIS AND UTI IN GERIATRIC PATIENTS – A REVIEW OF PERFORMANCE IN A DISTRICT GENERAL HOSPITAL. <i>Age and Ageing</i> . 2019; 48: i32-i35. DOI: 10.1093/ageing/afy204.11	No associations of interest: the study does not report delirium
132	Faezah SK, Zhang D, Yin LF. THE PREVALENCE AND RISK FACTORS OF DELIRIUM AMONGST THE ELDERLY IN ACUTE HOSPITAL. <i>Singapore Nursing Journal</i> . 2008; 35(1): 11-14. ISSN: 0218-2475	No control group
133	Fan H, Ji M, Huang J, Yue P, Yang X, Wang C, Ying W. Development and validation of a dynamic delirium prediction rule in patients admitted to the Intensive Care Units (DYNAMIC-ICU): A prospective cohort study. <i>International Journal of Nursing Studies</i> . 2019; 93: 64-73. DOI: 10.1016/j.ijnurstu.2018.10.008	Loss of quantitative data, the authors could not be contacted
134	Feldt KS, Griffin PL. Delirium in Hip-Fractured Elders. <i>Clinical Gerontologist: The Journal of Aging and Mental Health</i> . 1999; 20(2): 75-78. DOI: 10.1300/J018v20n02_07	No associations of interest: wrong diagnostic process (the method of establishing a diagnosis of delirium does not meet the protocol requirements)
135	Felix C, Andre A, Azevedo P, Machado H, Ferreira F, Basilio C, Nzwalo H. PREDICTORS OF HYPERACTIVE DELIRIUM IN PATIENTS WITH SPONTANEOUS INTRACEREBRAL HEMORRHAGE. <i>European Stroke Journal [Conference Publication: 5th European Stroke Organisation Conference, ESOC 2019. Italy]</i> . 2019; 4(Suppl 1): 543. DOI: 10.1177/2F2396987319845581	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
136	Fick D. DELIRIUM SUPERIMPOSED ON DEMENTIA: A REVIEW OF OCCURRENCE AND OUTCOMES. <i>Research and Practice in Alzheimer's Disease</i> . 2006; 11: 347-351. ISBN: 2914377959, 9782914377959	Not a primary study (review/comment)
137	Finger T, Radjabi A, Sternchos J, Nezhaf F. COMPLICATION RATES BETWEEN VIDEOLAPAROSCOPIC VERSUS ROBOTIC-ASSISTED LAPAROSCOPY IN MANAGEMENT OF EARLY,	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

	ADVANCED AND RECURRENT OVARIAN, FALLOPIAN AND PERITONEAL CANCER. The International Journal of Gynecological Cancer. 2012; 22(8, supplement 3): E442. DOI: 10.1097/01.IGC.0000422085.58592.d3	
138	Finger T, Radjabi A, Sternchos J, Nezhat F. Comparison of Complication Rates between Videolaparoscopic Versus Robotic-Assisted Laparoscopy in the Evaluation and Management of Early, Advanced and Recurrent Stage Ovarian, Fallopian Tube and Primary Peritoneal Cancer. Journal of Minimally Invasive Gynecology. 2012; 19(6): S11-S12. DOI: 10.1016/j.jmig.2012.08.044	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
139	Folbert EC, Hegeman JH, Gierveld R, van Netten JJ, van der Velde D, Ten Duis HJ, Slaets JP. Complications during hospitalization and risk factors in elderly patients with hip fracture following integrated orthogeriatric treatment. Archives of Orthopaedic and Trauma Surgery. 2017; 137(4): 507-515. DOI: 10.1007/s00402-017-2646-6	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
140	Fombuena Moreno M, Espinar Cid MV, Tolosa Martinez N, Navarro Sanz R. Incidence of nosocomial infections and symptoms associated to oncological terminal patients. [Spanish]. Medicina Paliativa. 2004; 11(2): 83-88. ISSN: 1134-248X	Loss of quantitative data, the authors could not be contacted
141	Galivanche AR, Kebaish KJ, Adrados M, Ottesen TD, Varthi AG, Rubin LE, Grauer JN. Postoperative Pressure Ulcers After Geriatric Hip Fracture Surgery Are Predicted by Defined Preoperative Comorbidities and Postoperative Complications. The Journal of the American Academy of Orthopaedic Surgeons. 2020; 28(8): 342-351. DOI: 10.5435/JAAOS-D-19-00104	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
142	Gallardo MS, Anton A, Pulido Herrero E, Larruscain MI, Guinea Suarez R, Garcia Gutierrez S, Sandoval Negral JC. Effectiveness of a home hospitalization program for patients with urinary tract infection after discharge from an emergency department. [Spanish]. Emergencias. 2017; 29(5): 313-319. PMID: 29077290	No control group
143	Gandhi GY, Nuttall GA, Abel MD, Mullany CJ, Schaff HV, Williams BA, Schrader LM, Rizza RA, McMahan MM. Intraoperative Hyperglycemia and Perioperative Outcomes in Cardiac Surgery Patients. Mayo Clinic Proceedings. 2005; 80(7): 862-866. DOI: 10.4065/80.7.862	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
144	Garcia Almarza S, Machado Vera M, Teran Benzaquen C, Mora Fernandez J. Delirium and functional decline in elderly hip fracture. European Geriatric Medicine. 2011; 2: S149. DOI: 10.1016/j.eurger.2011.06.002	Loss of quantitative data, the authors could not be contacted
145	Garcia-Cabrera L, Vaquero Pinto N, Miret Corchado C, Fernandez-Villaseca S, Montero Errasquin B, Alvarez Nebreda ML, Cruz-Jentoft AJ. Delaying hip fracture surgery increases perioperative complications. European Geriatric Medicine. 2016; 7(Suppl 1): S22-S23. ISSN: 1878-7649	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
146	Garcia Fernaendez JA, Martin De Francisco Murga E, Flores Aunoen A, Castejon Morales G, Alonso Bouzon C, Rodriguez-Manas L. Importance of the delay of surgery in elderly patients with hip fracture. European Geriatric Medicine. 2011; 2: S182. DOI: 10.1016/j.eurger.2011.06.002	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
147	Gargiulo G, De Salvo F, Ruggieri N. RESULTS AND COMPLICATIONS IN THORACOLUMBAR SPINAL SURGERY IN PATIENTS AGED OVER 70 YEAR. European Spine Journal. 2012; 21: 763. DOI: 10.1007/s00586-012-2290-3	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

148	Gargiulo G, De Salvo F, Ruggieri N. Results and complications in thoraco-lumbar spine surgery in patients aged over 70 years. <i>Journal of Orthopaedics and Traumatology</i> . 2013; 14(Suppl 1): S41. DOI: 10.1007/s10195-013-0258-7	Repetitive publication. The same data is provided in the article: Gargiulo G, De Salvo F, Ruggieri N. RESULTS AND COMPLICATIONS IN THORACOLUMBAR SPINAL SURGERY IN PATIENTS AGED OVER 70 YEAR. <i>European Spine Journal</i> . 2012; 21: 763. DOI: 10.1007/s00586-012-2290-3
149	Gau JT, Clay S. DIAGNOSTIC ACCURACY OF CRITERIA FOR URINARY TRACT INFECTION IN NURSING HOMES. <i>Journal of the American Geriatrics Society</i> . 2008; 56(3): 571. DOI: 10.1111/j.1532-5415.2008.01583.x	Not a primary study (review/comment)
150	Gelfand MS, Mazumder SA, Cleveland KO. Bacteriuria in Delirious Individuals. <i>The American Journal of Medicine</i> . 2014; 127(4):255-7. <i>American Journal of Medicine</i> . 2014; 127(10): e15. DOI: 10.1016/j.amjmed.2014.04.023	Not a primary study (review/comment)
151	Ghika J. Delirium in the elderly patient. [French]. <i>Medecine et Hygiene</i> . 1997; 55(2164): 1037-1041. ISSN: 0025-6749	Not a primary study (review/comment)
152	Gillick MR, Serrell NA, Gillick LS. ADVERSE CONSEQUENCES OF HOSPITALIZATION IN THE ELDERLY. <i>Social Science and Medicine</i> . 1982; 16(10): 1033-1038. DOI: 10.1016/0277-9536(82)90175-7	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
153	Gisbert Barrue R, Brull Royo M, Dominguez Lopez MDLO, Mulet Aloras E, Chavarria Gisbert J, Cajigas Sanchez P, Estupina Vitutia S. Clinical profile of patients admitted to an inpatient long-term care facility. <i>European Geriatric Medicine</i> . 2011; 2: S129-S130. DOI: 10.1016/j.eurger.2011.06.002	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
154	Glennie RA, Ailon T, Yung K, Batke J, Vaccaro AR, Fehlings MG, Arnold P, Harrop JS, Street JT. Incidence, impact, and risk factors of adverse events in thoracic and lumbar spine fractures: an ambispective cohort analysis of 390 patients. <i>The Spine Journal</i> . 2015; 15(4): 629-637. DOI: 10.1016/j.spinee.2014.11.016	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
155	Gold A, Sever R, Lerman Y, Salai M, Justo D. Admission Norton scale scores (ANSS) and postoperative complications following hip fracture surgery in the elderly. <i>Archives of Gerontology and Geriatrics</i> . 2012; 55(1): 173-176. DOI: 10.1016/j.archger.2011.07.004	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
156	Gompelman M, Rozemeijer W, Kortmann W. A life-threatening complication of an ordinary urinary tract infection? <i>The Netherlands Journal of Medicine</i> . 2014; 72(9): 502, 505. PMID: 25431400	Case report/series
157	Gonen I, Umul M, Kaya O, Temel EN, Kose SA, Unal O, Pala HZ, Akcam FZ. CLINICAL AND LABORATORY EVALUATION OF URINARY TRACT INFECTIONS IN ELDERLY POPULATION. <i>Acta Medica Mediterranea</i> . 2013; 29(4): 853-858. ISSN: 0393-6384	No control group
158	Gonzalez L, Puerta R, Fernandez F, Lamas JL, Valle L, De La Fuente J. What is the role of delirium in patients with hip fracture? <i>European Journal of Internal Medicine</i> . 2013; 24: e257-e258. DOI: 10.1016/j.ejim.2013.08.663	Loss of quantitative data, the authors could not be contacted
159	Gopal GK, Wilson BP, Viggswarpu S, Sathyendra S, Iyyadurai R, Visvanathan R, Mathews KP. Clinical Profile and Predictors of Outcomes in Older Inpatients with Pyelonephritis in a Tertiary Care Hospital in Southern India. <i>Journal of Clinical and Diagnostic Research</i> . 2015; 9(10): OC05-OC07. DOI: 10.7860/JCDR/2015/15964.6616	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

160	Greene S, Cogan N, Briggs R, Coughlan T, O'Neill D, McCabe D, Murphy S, Waish R, Collins R. Neuromedical Sequelae Post-Stroke. Irish Journal of Medical Science. 2014; 183(Suppl 7): S332. DOI: 10.1007/s11845-014-1177-1	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
161	Griebing TL. Re: Urinary Tract Infection in Very Old Women is Associated With Delirium [Editorial Comment]. The Journal of Urology. 2011; 186(2): 548-549. DOI: 10.1016/S0022-5347(11)60358-3	Not a primary study (review/comment)
162	Groschel K, Ernemann U, Riecker A, Schmidt F, Terborg C, Kastrup A. Incidence and risk factors for medical complications after carotid artery stenting. Journal of Vascular Surgery. 2005; 42(6): 1101-1106. DOI: 10.1016/j.ejvim.2013.08.663	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
163	Gui XG, Ru XL, Jiang ZH, Song BS. Analysis of perioperative complications of percutaneous kyphoplasty for osteoporotic vertebral compression fracture. [Chinese]. China Journal of Orthopaedics and Traumatology. 2013; 26(3): 205-209. PMID: 23795437	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
164	Gunckle EP. Delirium Psychosis in the Inpatient General Medical Setting and Its Relationship to Morbidity, Mortality, Length of Stay, and Additional Healthcare Costs During Hospitalization. Dissertation, Walden University. 2011. ISBN: 978-1-124-62565-2	Wrong control group (the number of cases of urinary tract infection and other comorbid diagnoses for the delirium group was used as the basis for determining the sample of cases used for the comparison group)
165	Gustafson Y. ACUTE CONFUSIONAL STATE (DELIRIUM): Clinical studies in hip-fracture and stroke patients. Dissertation, Umeå University. 1991. ISBN: 91-7174-594-7	Loss of quantitative data, the authors could not be contacted
166	Gustafson Y, Olsson T, Eriksson S, Asplund K, Bucht G. Acute Confusional States (Delirium) in Stroke Patients. Cerebrovascular Diseases. 1991; 1(5): 257-264. DOI: 10.1159/000108852	Wrong age group
167	Gustafson Y. Outcomes of hip fractures: Rehabilitation programmes: Comprehensive Geriatric Assessment and Rehabilitation-a prerequisite for successful treatment of people who have suffered a hip-fracture. European Geriatric Medicine. 2012; 3: S19. DOI: 10.1016/j.eurger.2012.07.413	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
168	Haavisto M, Geiger U, Mattila K, Rajala S. A HEALTH SURVEY OF THE VERY AGED IN TAMPERE, FINLAND. Age and Ageing. 1984; 13(5): 266-272. DOI: 10.1093/ageing/13.5.266	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
169	Haayman J, Stobberingh EE. Urinary tract infections in long-term care facility residents. Future Microbiology. 2018; 13: 9-12. DOI: 10.2217/fmb-2017-0183	Not a primary study (review/comment)
170	Hanna SJ, Woolley R, Brown L, Kesavan S. The coming of age of a joint elderly medicine-psychiatric ward: 18 years' experience. International Journal of Clinical Practice. 2008; 62(1): 148-151. DOI: 10.1111/j.1742-1241.2007.01504.x	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
171	Hao D, Xie E. MORBIDITY AND MORTALITY OF MAJOR ADULT SPINAL SURGERY: AN AMBISPECTIVE COHORT ANALYSIS OF 977 PATIENTS. European Spine Journal. 2016; 25(Suppl 3): S399. DOI: 10.1016/j.spinee.2017.08.040	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
172	Hatton KW, Flynn JD, Lalloo C, Fahy BG. Integrating Evidence-Based Medicine Into the Perioperative Care of Cardiac Surgery Patients. Journal of Cardiothoracic and Vascular Anesthesia. 2011; 25(2): 335-346. DOI: 10.1053/j.jvca.2010.06.002	Not a primary study (review/comment)

173	Heisler CA, Melton III LJ, Weaver AL, Gebhart JB. Determining Perioperative Complications Associated with Vaginal Hysterectomy: Code Classification Versus Chart Review. <i>Journal of the American College of Surgeons</i> . 2009; 209(1): 119-122. DOI: 10.1016/j.jamcollsurg.2009.03.017	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
174	Hensey N, Meiring R, Athavale N. URINARY TRACT INFECTIONS: ARE WE OVER-DIAGNOSING THEM? <i>Age and Ageing</i> . 2013; 42: ii14. DOI: 10.1093/ageing/aft016	No control group
175	Hernandez M, Martin G, Salazar R, Ceballos N. Infectious diseases in elderly institutionalised admitted to a acute geriatric unit infectious diseases in elderly institutionalised admitted to a acute geriatric unit. <i>European Geriatric Medicine</i> . 2011; 2: S194. DOI: 10.1016/j.eurger.2011.06.002	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
176	Hufschmidt A, Shabarin V, Rauer S, Zimmer T. Neurological Symptoms Accompanying Urinary Tract Infections. <i>European Neurology</i> . 2010; 63: 180-183. DOI: 10.1159/000289098	No control group
177	Ibanez MA, Baeza Monedero ME, Montalban PF. Gender differences in preoperative risk factors for delirium and postoperative outcomes in hip fracture surgery. <i>European Geriatric Medicine</i> . 2019; 10 (Supplement 1): S120. DOI: 10.1007/s41999-019-00221-0	Loss of quantitative data, the authors could not be contacted
178	Ishihara M, Matsuzaki A, Kinsui H. Postoperative Morbidity in Late-Stage Elders. <i>Urology</i> . 2009; 74(Suppl 4A): S324. DOI: 10.1016/j.urology.2009.07.100	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
179	Ishizawa K, Usuki K, Ando K, Ueda Y, Kiguchi T, Uike N, Onishi Y, Iida H. Multicenter, Open-Label Phase I Clinical Study of Oral Rigosertib in Japanese Patients with Recurrent/Relapsed or Refractory Myelodysplastic Syndromes: Tolerability, Efficacy, and Pharmacokinetic Profiles. <i>Blood</i> [Conference Publication: 58th Annual Meeting of the American Society of Hematology, ASH]. 2016; 128(22): 5538. DOI: 10.1182/blood.V128.22.5538.5538	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
180	Ishizawa K, Usuki K, Ando K, Ueda Y, Kiguchi T, Uike N, Onishi Y, Iida H. A MULTICENTER, OPEN-LABEL, PHASE I CLINICAL STUDY: SAFETY, EFFICACY, AND PHARMACOKINETICS OF ORAL RIGOSERTIB IN JAPANESE PATIENTS WITH RECURENT/RELAPSED OR REFRACTORY MYELODYSPLASTIC SYNDROMES. <i>Haematologica</i> [Conference Publication: 22th Congress of the European Hematology Association. Spain]. 2017; 102(Suppl 2): 493. ISSN: 1592-8721	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
181	Jia Y, Jin G, Guo S, Gu B, Jin Z, Gao X, Li Z. Fast-track surgery decreases the incidence of postoperative delirium and other complications in elderly patients with colorectal carcinoma. <i>Langenbeck's Archives of Surgery</i> . 2014; 399: 77-84. DOI: 10.1007/s00423-013-1151-9	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
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	Rectum. 2019; 62: e199-e200. DOI: 10.1097/DCR.0000000000001415	
184	Johnson JR. CONFUSION AND BACTERIURIA IN LONG-TERM CARE FACILITY RESIDENTS. <i>Journal of the American Geriatrics Society</i> . 2018; 66(6): 1235. DOI: 10.1111/jgs.15318	Not a primary study (review/comment)
185	Kalantar K, LaHue SC, DeRisi JL, Sample HA, Contag CA, Josephson SA, Wilson MR, Douglas VC. Whole-Genome mRNA Gene Expression Differs Between Patients With and Without Delirium. <i>Journal of Geriatric Psychiatry and Neurology</i> . 2018; 31(4): 203-210. DOI: 10.1177/0891988718785774	Wrong age group
186	Kamel HK. The Frequency and Factors Linked to a Urinary Tract Infection Coding in Patients Undergoing Hip Fracture Surgery. <i>Journal of the American Medical Directors Association</i> . 2005; 6(5): 316-320. DOI: 10.1016/j.jamda.2005.04.005	Loss of quantitative data, the authors could not be contacted
187	Kamel HK, Iqbal MA, Mogallapu R, Maas D, Hoffmann RG. Time to Ambulation After Hip Fracture Surgery: Relation to Hospitalization Outcomes. <i>Journals of Gerontology Series A: Biological Sciences and Medical Sciences</i> . 2003; 58(11): 1042-1045. DOI: 10.1093/gerona/58.11.M1042	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
188	Kandel R, Bhattarai B, Dahal S. COGNITIVE STATUS AND THE OUTCOMES OF HIP FRACTURE SURGERY IN ELDERLY PATIENTS. <i>Alzheimer's and Dementia</i> . 2018; 14(7): P799-P800. DOI: 10.1016/j.jalz.2018.06.995	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
189	Karki S, Kyomen H. ACUTE CONFUSIONAL STATES IN OLDER ADULTS WITH MAJOR NEUROCOGNITIVE DISORDER AND BACTERIURIA: IS ANTIBIOTIC TREATMENT WARRANTED? <i>The American Journal of Geriatric Psychiatry</i> . 2020; 28 (4 Supplement): S111-S112. DOI: 10.1016/j.jagp.2020.01.139	Case report/series
190	Karlicic IS, Stasevic M, Jankovic S, Dejanovic SD, Milovanovic S. Markers of inflammation as risk predictors of lethal outcome in patients diagnosed with delirium. <i>Vojnosanitetski Pregled</i> . 2016; 73(9): 838-843. DOI: 10.2298/VSP141212012S	Wrong age group
191	Kasapovic A, Welle K, Jacobs C, Burger C, Kabir K. COMPLICATIONS AFTER POSTTRAUMATIC DORSAL CERVICAL SPINE FUSION. <i>European Spine Journal</i> . 2017; 26(2): S399. DOI: 10.1007/s00586-017-5225-1	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
192	Kato CD, Nanteza A, Mugasa C, Edyelu A, Matovu E, Alibu VP. Clinical Profiles, Disease Outcome and Co-Morbidities among T.b. rhodesiense Sleeping Sickness Patients in Uganda. <i>PLoS ONE</i> . 2015; 10(2): e0118370. DOI: 10.1371/journal.pone.0118370	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
193	Katragadda L, Kantarjian HM, Garcia-Manero G, Kadia TM, Ferrajoli A, Jabbour EJ, Quintas-Cardama A, Konopleva M, Maniar M, Wilhelm F, Ravandi F, Cortes JE. Phase1/2 Single Arm Study of Rigosertib (ON 01910.Na) in Patients (pts) with Relapsed or Refractory Acute Leukemia or Transformed Myeloproliferative Neoplasms. <i>Blood [Conference Publication: 54th Annual Meeting of the American Society of Hematology, ASH]</i> . 2012; 120(21): 3606. DOI: 10.1182/blood.V120.21.3606.3606	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
194	Kelly A, Batke JN, Boyd M, Dvorak MF, Fisher CG, Kwon BK, Paquette SJ, Street J, Dea N. Prospective Analysis of Adverse Events in Surgical Treatment of Degenerative	Repetitive publication. The same data is provided in the article: Kelly AM, Batke JN, Dea N, Hartig DP, Fisher CG, Street JT. Prospective Analysis of

	Spondylolisthesis. <i>The Spine Journal</i> . 2012; 12(9): 108S-109S. DOI: 10.1016/j.spinee.2012.08.296	Adverse Events in Surgical Treatment of Degenerative Spondylolisthesis. <i>The Spine Journal</i> . 2014; 14(12): 2905-2910. DOI: 10.1016/j.spinee.2014.04.016
195	Kelly AM, Batke JN, Dea N, Hartig DP, Fisher CG, Street JT. Prospective Analysis of Adverse Events in Surgical Treatment of Degenerative Spondylolisthesis. <i>The Spine Journal</i> . 2014; 14(12): 2905-2910. DOI: 10.1016/j.spinee.2014.04.016	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
196	Kennedy M, Enander RA, Wolfe RE, Marcantonio ER, Shapiro NI. Identification of Delirium in Elderly Emergency Department Patients. <i>Academic Emergency Medicine</i> . 2012; 19(4, Suppl 1): S147. DOI: 10.1111/j.1553-2712.2012.01332.x	Loss of quantitative data, the authors could not be contacted
197	Kennelly S, Briggs R, O'Neill D. Nursing Home Residents in the Emergency Department: A Cohort Study. <i>Irish Journal of Medical Science</i> . 2012; 181(Suppl 7): S230. DOI: 10.1007/s11845-012-0842-5	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
198	Kennelly S, Briggs R, O'Neill D. Emergency department attendances by nursing home residents. <i>European Geriatric Medicine</i> . 2012; 3: S30. DOI: 10.1016/j.eurger.2012.07.444	Repetitive publication. The same data is provided in the article: Kennelly S, Briggs R, O'Neill D. Nursing Home Residents in the Emergency Department: A Cohort Study. <i>Irish Journal of Medical Science</i> . 2012; 181(Suppl 7): S230. DOI: 10.1007/s11845-012-0842-5
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200	Keyserling K, Beeber A, Sloane P. Is it really a UTI? How useful REALLY Are Clinical Signs in Older Persons? <i>Journal of the American Geriatrics Society</i> . 2014; 62: S267. DOI: 10.1111/jgs.12870	Not a primary study (review/comment)
201	Khammassi N, Ben Mansour A, Abdelhedi H, Cherif O. Adverse effects of psychotropic drugs in the elderly: Retrospective study of 35 cases. [French]. <i>Annales Medico-Psychologiques</i> . 2012; 170(4): 251-255. DOI: 10.1016/j.amp.2011.11.012	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
202	Khasraghi FA, Lee EJ, Christmas C, Wenz JF. The Economic Impact of Medical Complications in Geriatric Patients With Hip Fracture. <i>Orthopedics</i> . 2003; 26(1): 49-53. PMID: 12555834	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
203	Kim KI, Park KH, Koo KH, Han HS, Kim CH. Comprehensive geriatric assessment can predict postoperative morbidity and mortality in elderly patients undergoing elective surgery. <i>Archives of Gerontology and Geriatrics</i> . 2013; 56(3): 507-512. DOI: 10.1016/j.archger.2012.09.002	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
204	Kirkova Y, Hwang YJ. DELIRIUM IN ELDERLY PATIENTS UNDERGOING CHEMOTHERAPY FOR SOLID CANCERS AND LYMPHOMA. Supportive Care in Cancer [Conference Publication: 2018 Joint Meeting of the Multinational Association of Supportive Care in Cancer, MASCC and the International Society of Oral Oncology, ISOO 2018. Austria]. 2018; 26(Suppl 2): S159. DOI: 0.26226/morressier.5afadd88f314ac000849af2c	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
205	Klimiec E, Kowalska K, Pasinska P, Klimkowicz-Mrowiec A, Szyper A, Pera J, Slowik A, Dziedzic T. Pre-stroke apathy symptoms are associated with an increased risk of	Wrong age group

	delirium in stroke patients. <i>Scientific Reports</i> . 2017; 7(1): 7658. DOI: 10.1038/s41598-017-08087-7	
206	Kreder HJ, Berry GK, McMurtry IA, Halman SI. Arthroplasty in the Octogenarian. <i>The Journal of Arthroplasty</i> . 2005; 20(3): 289-293. DOI: 10.1016/j.arth.2004.09.024	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
207	Kunter U. Urinary tract infections in the elderly. [German]. <i>Der Nephrologe</i> . 2018; 13(5): 328-339. DOI: 10.1007/s11560-018-0249-z	Not a primary study (review/comment)
208	Kuswardhani RAT, Sugi YS. Factors Related to the Severity of Delirium in the Elderly Patients With Infection. <i>Gerontology and Geriatric Medicine</i> . 2017; 3: 1-5. DOI: 10.1177/2333721417739188	No control group
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212	Langmore SE, Skarupski KA, Park PS, Fries BE. Predictors of Aspiration Pneumonia in Nursing Home Residents. <i>Dysphagia</i> . 2002; 17(4): 298-307. DOI: 10.1007/s00455-002-0072-5	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
213	Lara LL, Troop PR, Beadleson-Baird M. The Risk of Urinary Tract Infection in Bowel Incontinent Men. <i>Journal of Gerontological Nursing</i> . 1990; 16(5): 24-26. DOI: 10.3928/0098-9134-19900501-07	No associations of interest: the study does not report delirium
214	Lata C, Somayaji R, Holton DL. ANTIMICROBIAL PRESCRIBING PRACTICES IN THE TREATMENT OF SUSPECTED UTI IN THE ELDERLY IN THE EMERGENCY DEPARTMENT: A RETROSPECTIVE SINGLE CENTRE STUDY. <i>Canadian Journal of Infectious Diseases and Medical Microbiology</i> . 2015; 26(2): e38-e39. ISSN: 1918-1493	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
215	Lau HL, Patel S, Garg N. Causes and Predictors of 30-Day Readmission in Elderly Patients with Delirium. <i>Neurology [Conference Publication: 71st Annual Meeting of the American Academy of Neurology, AAN]</i> . 2019; 92(15). ISBN: 1526-632X	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
216	Lean K, Nawaz RF, Jawad S, Vincent C. Reducing urinary tract infections in care homes by improving hydration. <i>BMJ Open Quality</i> . 2019; 8(3): e000563. DOI: 10.1136/bmjoq-2018-000563	No associations of interest: the study does not report delirium
217	Leao J, Bhatt NR, O'Connell N, Powell J, Giri SK. A review of urosepsis over a ten-year period within the Department of Urology at University Hospital Limerick. <i>Irish Journal of Medical Science</i> . 2017; 186(Suppl 3): S143. DOI: 10.1007/s11845-017-1578-z	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
218	Lee EA, Malatt C. Making the Hospital Safer for Older Adult Patients: A Focus on the Indwelling Urinary Catheter. <i>The Permanente Journal</i> . 2011; 15(1): 49-52. DOI: 10.7812/tpp/10-067	Not a primary study (review/comment)

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220	Lee MJ, Sayers AE, Drake TM, Singh P, Bradburn M, Wilson TR, Muruganathan A, Walsh CJ, Fearnhead NS. Malnutrition, nutritional interventions and clinical outcomes of patients with acute small bowel obstruction: results from a national, multicentre, prospective audit. <i>BMJ Open</i> . 2019; 9(7): e029235. DOI: 10.1136/bmjopen-2019-029235	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
221	Legault C, Vieira L, Cote R. Medical complication and outcome of ischemic stroke patients in relation to length of stay in emergency department. <i>International Journal of Stroke</i> . 2015; 10(Suppl 4): 51. DOI: 10.1111/ij.s.12633-2	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
222	Legault C, Chen BY, Vieira L, Lo B, Wadup L, Cote R. Delays in the emergency department for stroke patients, medical complications and predictors of outcomes: the McGill experience. <i>The Canadian Journal of Neurological Sciences</i> . 2016; 43(Suppl 2): S36. DOI: 10.1017/cjn.2016.168	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
223	LeGrand SB. Delirium in Palliative Medicine: A Review. <i>Journal of Pain and Symptom Management</i> . 2012; 44(4): 583-594. DOI: 10.1016/j.jpainsymman.2011.10.013	Not a primary study (review/comment)
224	Lemoine L, Dupont C, Capron A, Cerf E, Yilmaz M, Verloop D, Blanckaert K, Senneville E, Alfandari S. Prospective evaluation of the management of urinary tract infections in 134 French nursing homes. <i>Medecine et Maladies Infectieuses</i> . 2018; 48(5): 359-364. DOI: 10.1016/j.medmal.2018.04.387	No control group
225	Lepetitcorps H, Pociumban M, Bouksani-Kacher Z, Pautas E, Belmin J, Bastuji-Garin S, Lafuente-Lafuente C. Precipitating factors for delirium in community-dwelling elderly individuals: a prospective case series. <i>European Geriatric Medicine</i> . 2017; 8(Suppl 1): S90. ISSN: 1878-7649	Case report/series
226	Lerner AJ, Hedera P, Koss E, Stuckey J, Friedland RP. Delirium in Alzheimer Disease. <i>Alzheimer Disease and Associated Disorders</i> . 1997; 11(1): 16-20. DOI: 10.1097/00002093-199703000-00004	Loss of quantitative data (number of patients with UTI in the control group), the authors could not be contacted
227	Leung A, Fong C, Mack C, Ting C, Franklyn K, Gudjuhar A. Utility of an Ortho-Geriatric Service: Hip Fracture Patient Outcomes Across Three Melbourne Metropolitan Hospitals. <i>Internal Medicine Journal</i> . 2010; 40(Suppl 1): 131. DOI: 10.1111/j.1445-5994.2010.02187.x	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
228	Levkoff SE, Safran C, Cleary PD, Gallop J, Phillips RS. Identification of Factors Associated with the Diagnosis of Delirium in Elderly Hospitalized Patients. <i>Journal of the American Geriatrics Society</i> . 1988; 36(12): 1099-1104. DOI: 10.1111/j.1532-5415.1988.tb04396.x	Wrong age group
229	Levy CR, Eilertsen T, Kramer AM, Hutt E. Which Clinical Indicators and Resident Characteristics Are Associated With Health Care Practitioner Nursing Home Visits or Hospital Transfer for Urinary Tract Infections? <i>Journal of the American Medical Directors Association</i> . 2006; 7(8): 493-498. DOI: 10.1016/j.jamda.2006.03.001	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
230	Levy CR, Alemi F, Williams AE, Williams AR, Wojtusiak J, Sutton B, Giang P, Pracht E, Argyros L. Shared Homes as an Alternative to Nursing Home Care: Impact of VA's Medical Foster Home Program on Hospitalization. <i>The Gerontologist</i> . 2016; 56(1): 62-71. DOI: 10.1093/geront/gnv092	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

231	Li HC, Taylor M. ADVANCED AGE AND THE PRESENTATION OF FRAILTY, RATHER THAN SINGLE SYSTEM DIAGNOSES, ARE THE MAIN PREDICTORS OF INPATIENT LENGTH OF STAY: A RETROSPECTIVE LINEAR MULTIPLE REGRESSION ANALYSIS OF 23,151 ADMISSION EPISODES. <i>Age and Ageing</i> . 2019; 48: i32. DOI: 10.1093/ageing/afy204.10	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
232	Li JY, Yap R, Ge J, Liew S, Lo ZJ, Froilan E, Selvaganapathi N, Chan M, Narayanan S, Chandrasekar S, Tan GWL. Effectiveness of perioperative geriatric consultation for Vascular in-patient population. <i>Journal of the American Geriatrics Society</i> . 2017; 65: S69. ISSN: 0002-8614	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
233	Liao H, Teresi J, Inouye S, Boockvar K. One-year Outcomes of an Adapted Hospital Elder Life Program to Prevent Delirium in Long-term Care. <i>Journal of the American Geriatrics Society</i> . 2016; 64: S17-S18. DOI: 10.1111/jgs.14231	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
234	Lim PN, Ooi LJ, Ong T, Neighbour C, Sahota O. PELVIC FRACTURES IN OLDER PEOPLE ADMITTED TO HOSPITAL: THE CLINICAL BURDEN. <i>Age and Ageing</i> . 2018; 47: iii9-iii12. DOI: 10.1093/ageing/afy124.02	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
235	Lima M, Mondadori L, Chibana A, Gilio D, Giroud E, Michard F. Upscaling hemodynamic and brain monitoring during major cancer surgery: a before-after comparison study. <i>Critical Care [Conference Publication: 38th International Symposium on Intensive Care and Emergency Medicine, ISICEM]</i> . 2018; 22(Suppl 1): 82. DOI: 10.1186/s13054-018-1973-5	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
236	Lima MF, Mondadori LA, Chibana AY, Gilio DB, Giroud Joaquim EH, Michard F. Outcome impact of hemodynamic and depth of anesthesia monitoring during major cancer surgery: a before-after study. <i>Journal of Clinical Monitoring and Computing</i> . 2019; 33(3): 365-371. DOI: 10.1007/s10877-018-0190-8	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
237	Lin RY, Heacock LC, Bhargava GA, Fogel JF. Clinical associations of delirium in hospitalized adult patients and the role of on admission presentation. <i>International Journal of Geriatric Psychiatry</i> . 2010; 25(10): 1022-1029. DOI: 10.1002/gps.2500	Wrong age group
238	Lin RY, Heacock LC, Fogel JF. Drug-Induced, Dementia-Associated and Non-Dementia, Non-Drug Delirium Hospitalizations in the United States, 1998-2005: An Analysis of the National Inpatient Sample. <i>Drugs and Aging</i> . 2010; 27(1): 51-61. DOI: 10.2165/11531060-000000000-00000	Wrong age group
239	Ling XW, Howe TS, Bee Koh JS, Wong MK, Meng Ng AC. Preoperative thyroid dysfunction predicts 30-day postoperative complications in elderly HIP fracture patients treated surgically. <i>Endocrine Reviews [Conference Publication: 94th Annual Meeting and Expo of the Endocrine Society, ENDO]</i> . 2012; 33(3). ISSN 0163-769X	Repetitive publication. The same data is provided in the article: Ling XW, Howe TS, Bee Koh JS, Wong MK, Meng Ng AC. Preoperative Thyroid Dysfunction Predicts 30-Day Postoperative Complications in Elderly Patients With Hip Fracture. <i>Geriatric Orthopaedic Surgery and Rehabilitation</i> . 2013; 4(2): 43-49. DOI: 10.1177/2151458513504215
240	Ling XW, Howe TS, Bee Koh JS, Wong MK, Meng Ng AC. Preoperative Thyroid Dysfunction Predicts 30-Day Postoperative Complications in Elderly Patients With Hip Fracture. <i>Geriatric Orthopaedic Surgery and Rehabilitation</i> . 2013; 4(2): 43-49. DOI: 10.1177/2151458513504215	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

241	Lisk C, Mani S, Bertfield D, Ritchie A, Webber A. Hospital admission avoidance; data from 1392 patients referred to the rapid response service. <i>European Geriatric Medicine</i> . 2015; 6(Suppl 1): S38. DOI: 10.1016/S1878-7649(15)30128-5	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
242	Liu J, Jang M, Mary-Ann H, Buxbaum L, Makineni R, Schwab E, Kinoshian B. HOSPITAL IN HOME PATIENTS SUFFER FEWER PATIENT SAFETY EVENTS THAN COMPARABLE HOSPITAL INPATIENTS. <i>Journal of General Internal Medicine</i> . 2016; 31(2): S245. ISSN: 1525-1497	No associations of interest: the study reports neither delirium nor UTI/asymptomatic bacteriuria
243	Liu X, Liu Y, Pan S, Cao H, Yu D. Does integrity of the lesser trochanter influence the surgical outcome of intertrochanteric fracture in elderly patients? <i>BMC Musculoskeletal Disorders</i> . 2015; 16(1): 47. DOI: 10.1186/s12891-015-0492-7	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
244	Lixouriotis C, Peritogiannis V. Delirium in the primary care setting. <i>Psychiatry and Clinical Neurosciences</i> . 2011; 65(1): 102-104. DOI: 10.1111/j.1440-1819.2010.02165.x	Case report/series
245	Lopes MA, Maia E, Lima A, Martins T, Silva K, Zanella I, Steglich M, Stoppe JA, Neto YC. Prevalence of dementia in elderly inpatients: Investigation of associated clinical conditions. <i>Alzheimer's and Dementia</i> . 2014; 10: P682. DOI: 10.1016/j.jalz.2014.05.1236	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
246	Lopez S, Sibilano A, Stefanoni MG, Gazzardi G, Balconi R, Guaita A. Clinical complexity and clinical instability among the nursing home residents. [Italian]. <i>Giornale di Gerontologia</i> . 2009; 57: 23-32. ISSN: 0017-0305	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
247	Lubomski M, Rushworth RL, Tisch S. Hospitalisation and comorbidities in Parkinson's disease: A large Australian retrospective study. <i>Movement Disorders</i> . 2014; 29(Suppl 1): S545. DOI: 10.1002/mds.25914	Repetitive publication. The same data is provided in the article: Lubomski M, Rushworth R, Tisch S. Hospitalisation and comorbidities in Parkinson's disease: a large Australian retrospective study. <i>Journal of Neurology, Neurosurgery and Psychiatry</i> . 2015; 86(3): 324-330. DOI: 10.1136/jnnp-2014-307822
248	Lubomski M, Rushworth R, Tisch S. Hospitalisation and comorbidities in Parkinson's disease: a large Australian retrospective study. <i>Journal of Neurology, Neurosurgery and Psychiatry</i> . 2015; 86(3): 324-330. DOI: 10.1136/jnnp-2014-307822	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
249	Lundstrom M, Olofsson B, Stenvall M, Karlsson S, Nyberg L, Englund U, Borssen B, Svensson O, Gustafson Y. Postoperative delirium in old patients with femoral neck fracture: a randomized intervention study. <i>Aging Clinical and Experimental Research</i> . 2007; 19(3): 178-186. DOI: 10.1007/BF03324687	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
250	MacDonald SL, Robinson LR. The Incidence of Physiatry-Relevant Complications in Trauma Patients Admitted to an Urban Canadian Trauma Center. <i>American Journal of Physical Medicine and Rehabilitation</i> . 2019; 98(2): 165-168. DOI: 10.1097/PHM.0000000000001021	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
251	MacLennon WJ. Urinary tract infections in older patients. <i>Reviews in Clinical Gerontology</i> . 2003; 13(2): 119-127. DOI: 10.1017/S0959259803013236	Not a primary study (review/comment)
252	Magny E, Le Petitcorps H, Pociumban M, Bouksani-Kacher Z, Pautas E, Belmin J, Bastuji-Garin S, Lafuente-Lafuente C. Predisposing and precipitating factors for delirium in community-dwelling older adults admitted to hospital with this condition: A prospective case series. <i>PLoS ONE</i> . 2018; 13(2): e0193034. DOI: 10.1371/journal.pone.0193034	Case report/series

253	Manappallil RG. Delirium in Parkinson's Disease: A Cocktail Diagnosis. <i>Journal of Clinical and Diagnostic Research</i> . 2016; 10(12): OD15-OD16. DOI: 10.7860/JCDR/2016/22248.9089	Case report/series
254	Manepalli J, Grossberg GT, Mueller C. Prevalence of Delirium and Urinary Tract Infection in a Psychogeriatric Unit. <i>Journal of Geriatric Psychiatry and Neurology</i> . 1990; 3(4): 198-202. DOI: 10.1177/089198879000300404	No associations of interest: wrong condition (patients with urinary tract infection and asymptomatic bacteriuria are put together in one group)
255	Mansutti I, Saiani L, Palese A. Delirium in patients with ischaemic and haemorrhagic stroke: findings from a scoping review. <i>European Journal of Cardiovascular Nursing</i> . 2019; 18(6): 435-448. DOI: 10.1177/1474515119846226	Not a primary study (review/comment)
256	Marcantonio ER. Can you explain how a urinary tract infection in an older patient can sometimes precipitate delirium? <i>Annals of Long-Term Care</i> . 2002; 10(1): 56. ISSN: 1524-7929	Not a primary study (review/comment)
257	Marengoni A, Calabrese AP, Cossi S. Hospital admissions for acute onset of behavioral symptoms in demented patients: what do they want to say? <i>International Psychogeriatrics</i> . 2004; 16(4): 491-493. DOI: 10.1017/s1041610204230915	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
258	Marion TE, Rivers CS, Kurban D, Cheng CL, Fallah N, Batke J, Dvorak MF, Fisher CG, Kwon BK, Noonan VK, Street JT. Previously Identified Common Post-Injury Adverse Events in Traumatic Spinal Cord Injury - Validation of Existing Literature and Relation to Selected Potentially Modifiable Comorbidities: A Prospective Canadian Cohort Study. <i>Journal of Neurotrauma</i> . 2017; 34(20): 2883-2891. DOI: 10.1089/neu.2016.4933	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
259	Marques Alvarez L, Rodriguez Garcia R, Villota Ferreiro L, Perez Belmonte L, Escudero Augusto D, Cofino Castaneda LA, Yano Escudero R, Alvarez Garcia L, Palomo Antequera C, Martinez Revuelta M, Garcia Arias B. Complications and mortality in severe trauma inpatient after intensive care unit discharge. <i>Intensive Care Medicine Experimental [Conference Publication: 30th Annual Congress of the European Society of Intensive Care Medicine, ESICM]</i> . 2017; 5(2): 247-248. DOI: 10.1186/s40635-017-0151-4	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
260	Marthinsen AE, Olsen LH, Dahl M, Svendsen T, Ranhoff AH. Characteristics and trajectories of patients admitted to an acute geriatric unit and the development of care pathways. <i>European Geriatric Medicine</i> . 2011; 2: S133. DOI: 10.1016/j.eurger.2011.06.002	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
261	Martin Aspas A, Benitez Macias JF, Benitez Rodriguez E, Segura Fernandez E, Mogollo Galvan A. Relation of precipitating factors and mortality in agitated delirium of Palliative Care patients. [Spanish]. <i>Medicina Paliativa</i> . 2005; 12(3): 147-151. ISSN: 1134-248X	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
262	Martinez L, Heflin MT. Hazards of Hospitalization: A Novel Geriatrics Curriculum for Internal Medicine Interns. <i>Journal of the American Geriatrics Society</i> . 2012; 60: S210. DOI: 10.1111/j.1532-5415.2012.04000.x	No associations of interest: the study reports neither delirium nor UTI/asymptomatic bacteriuria
263	Mas MA, Gamez S, Delgado V, Gonzalez-Ares JA. Management of delirium at home in older patients early discharged for a hospital-at-home intervention (HaH). <i>European Geriatric Medicine</i> . 2012; 3: S138-S139. DOI: 10.1016/j.eurger.2012.07.350	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
264	Maskoen TT, Adiwinata R, Oktaliansah E. The incidence and risk factors of delirium in patients who admitted to the ICU of Dr. Hasan Sadikin Hospital Bandung Indonesia. <i>Intensive Care Medicine Experimental [Conference</i>	No associations of interest: the study does not report UTI or asymptomatic bacteriuria

	Publication: 30th Annual Congress of the European Society of Intensive Care Medicine, ESICM]. 2017; 5(Suppl 2): 176. DOI: 10.1186/s40635-017-0151-4	
265	Mattar I, Chan MF, Childs C. Factors causing acute delirium in critically ill adult patients: a systematic review. JBI Library of Systematic Reviews. 2012; 10(3): 187-231. DOI: 10.11124/jbisrir-2012-3	Not a primary study (review/comment)
266	Matthews SJ, Lancaster JW. Urinary Tract Infections in the Elderly Population. The American Journal of Geriatric Pharmacotherapy. 2011; 9(5): 286-309. DOI: 10.1016/j.amjopharm.2011.07.002	Not a primary study (review/comment)
267	Mayne DJF, Nicholas J, Fraser K, Ager S, Medhi M, Jaafar A. BACTERIURIA AND DELIRIUM. Age and Ageing. 2012; 41(Suppl 2): ii81. DOI: 10.1093/ageing/afs112	No control group
268	Mayne S, Bowden A, Sundvall P-D, Gunnarsson R. The scientific evidence for a potential link between confusion and urinary tract infection in the elderly is still confusing - a systematic literature review. BMC Geriatrics. 2019; 19(1): 1-15. DOI: 10.1186/s12877-019-1049-7	Not a primary study (review/comment)
269	Mayne S, Sundvall PD, Gunnarsson R. Confusion Strongly Associated with Antibiotic Prescribing Due to Suspected Urinary Tract Infections in Nursing Homes. Journal of the American Geriatrics Society. 2018; 66(2): 274-281. DOI: 10.1111/jgs.15179	Loss of quantitative data, the authors were contacted but did not provide the necessary data.
270	Mazzone A, Torelli F, Mazzola P, Blanco S, Bellelli G, Grasso M, Annoni G. THE USE OF INDWELLING URINARY CATHETER IN ELDERLY PEOPLE: RESULTS FROM A SURVEY IN AN ACUTE GERIATRIC WARD. Neurourology and Urodynamics. 2013; 32(Suppl 1): S34-S35. DOI: 10.1002/nau.22424	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
271	McClellan P, Tunney M, Gilpin D, Parsons C, Hughes C. Antimicrobial prescribing in residential homes. Journal of Antimicrobial Chemotherapy. 2012; 67(7): 1781-1790. DOI: 10.1093/jac/dks085	No associations of interest: the study does not report delirium
272	McClure CL. Common Infections in the Elderly. American Family Physician. 1992; 45(6): 2691-2598. PMID: 1595517	Not a primary study (review/comment)
273	McKee N, Hayes E. An Audit of Antibiotic Prescription for Older Patients Admitted to Hospital with Urinary Tract Infection. Irish Journal of Medical Science. 2013; 182(Suppl 6): S264. DOI: 10.1007/s11845-013-0985-z	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
274	McKenzie R, Stewart MT, Bellantoni MF, Finucane TE. Bacteriuria in Individuals Who Become Delirious. The American Journal of Medicine. 2014; 127(4): 255-257. DOI: 10.1016/j.amjmed.2013.10.016	Not a primary study (review/comment)
275	McKenzie R, Finucane TE. The Reply. The American Journal of Medicine. 2014; 127(10): E17. DOI: 10.1016/j.amjmed.2014.06.023	Not a primary study (review/comment)
276	McNulty C. Managing asymptomatic bacteriuria in the elderly. Practice Nursing. 2014; 25(1): 11-15. DOI: 10.12968/pnur.2014.25.1.11	Not a primary study (review/comment)
277	Merchant RA, Lui KL, Ismail NH, Wong HP, Sitoh YY. The Relationship between Postoperative Complications and Outcomes after Hip Fracture Surgery. Annals of the Academy of Medicine, Singapore. 2005; 34(2): 163-168. PMID: 15827663	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
278	Michael A, Obiechina N, Hussain Z, Waites M. Perioperative complications and hip fracture mortality. European Geriatric Medicine. 2017; 8: S231. ISSN: 1878-7649	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
279	Mikhail Mustafa S, Harte GI, Maher C. THE UTILITY OF THE AUSTRALIAN PELVIC FLOOR QUESTIONNAIRE	No associations of interest: the study does not report delirium

	AS AN ASSESSMENT TOOL FOR URINARY INCONTINENCE AND PROLAPSE. Female Pelvic Medicine and Reconstructive Surgery. 2019; 25(5): S246-S247. DOI: 10.1097/SPV.0000000000000766	
280	Miller J. To treat or not to treat: managing bacteriuria in elderly people. Canadian Medical Association Journal. 2001; 164(5): 619-620. PMID: 11258205	Not a primary study (review/comment)
281	Miller MM, Mahta A, Mayasi Y, Yakhkind A, Dakay KB, Azher I, Hannoun A, Barton B, Wendell LC, Carandang RA. The Safety and Utility of Steroids in Aneurysmal Subarachnoid Hemorrhage. Stroke [Conference Publication: International Stroke Conference 2019, Honolulu, Hawaii, USA]. 2019; 50: Abstract TP551. DOI: 10.1161/str.50.suppl_1.TP551	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
282	Mittal C, Lee HCD, Goh KS, Lau CKA, Tay L, Siau C, Loh YH, Goh TKE, Sandi CL, Lee CE. ValuedCare program: a population health model for the delivery of evidence-based care across care continuum for hip fracture patients in Eastern Singapore. Journal of Orthopaedic Surgery and Research. 2018; 13(1): 129. DOI: 10.1186/s13018-018-0819-9	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
283	Moreigne B, Dudognon P, Berthouin M, Labrousse A, Sauvage P, Salle JY, Munoz M, Labrousse C. Urinary incontinence in the elderly in a middle stay geriatric unit. Epidemiological survey and results of micturitional rehabilitation. [French]. Annales de Readaptation et de Medecine Physique. 1994; 37(8): 437-442. ISSN: 0168-6054	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
284	Moreno G, Bissig D, Simpkins T, Duffy A, Kennedy J. Development of an Algorithm for Treatment of Altered Mental Status in the Emergency Department. Neurology [Conference Publication: 69th American Academy of Neurology Annual Meeting, AAN]. 2017; 88(16). ISSN: 1526-632X	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
285	Mukherjee K, Burruss SK, Brooks SE, May AK. Managing Infectious Disease in the Critically Ill Elderly Patient. Current Geriatrics Reports. 2019; 8(3): 180-193. DOI: 10.1007/s13670-019-00291-9	Not a primary study (review/comment)
286	Mullen JO, Mullen NL. Hip Fracture Mortality: A Prospective, Multifactorial Study to Predict and Minimize Death Risk. Clinical Orthopaedics and Related Research. 1992; (280): 214-222. PMID: 1611747	Wrong age group
287	Murphy DP, Cleveland M. Urinary Tract Infections in Elderly Patients: How Best to Diagnose and Treat. Consultant. 2004; 44(12): 1502-1506. ISSN: 0010-7069	Case report/series
288	Nace DA, Drinka PJ, Crnich CJ. Clinical Uncertainties in the Approach to Long Term Care Residents With Possible Urinary Tract Infection. Journal of the American Medical Directors Association. 2014; 15(2): 133-139. DOI: 10.1016/j.jamda.2013.11.009	Not a primary study (review/comment)
289	Nasim A, Debra KM, Dhakam Z. Diuretics increase Morbidity in Elderly Patients. Journal of the American Geriatrics Society. 2011; 59: S31. DOI: 10.1111/j.1532-5415.2011.03416.x	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
290	Nayar S, Xavier K, Braude P. POSTOPERATIVE DELIRIUM FOLLOWING CARDIOTHORACIC SURGERY: A NURSING PERSPECTIVE. Age and Ageing. 2019; 48: i21-i22. DOI: 10.1093/ageing/afy198.05	No associations of interest: the study reports neither delirium nor UTI/asymptomatic bacteriuria
291	Nelson JM, Good E. Urinary tract infections and asymptomatic bacteriuria in older adults. The Nurse	Not a primary study (review/comment)

	Practitioner. 2015; 40(8): 43-48. DOI: 10.1097/01.NPR.0000460855.44987.c1	
292	Newman DK, Strauss R. Preventing Catheter-Associated Urinary Tract Infections. <i>UroToday International Journal</i> . 2013; 6(5). DOI: 10.3834/uij.1944-5784.2013.10.11	Not a primary study (review/comment)
293	Newman JM, Sodhi N, Dalton SE, Khlopas A, Newman RP, Higuera CA, Mont MA. Does Parkinson's Disease Increase the Risk of Perioperative Complications After Total Hip Arthroplasty? A Nationwide Database Study. <i>The Journal of Arthroplasty</i> . 2018; 33(7): S162-S166. DOI: 10.1016/j.arth.2018.01.006	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
294	Nguyen PV-Q, Pelletier L, Payot I, Latour J. The Delirium Drug Scale is associated to delirium incidence in the emergency department. <i>International Psychogeriatrics</i> . 2018; 30(4): 503-510. DOI: 10.1017/S1041610217002538	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
295	Nicolle LE, Henderson E, Bjornson J, McIntyre M, Harding GKM, MacDonell JA. The Association of Bacteriuria with Resident Characteristics and Survival in Elderly Institutionalized Men. <i>Annals of Internal Medicine</i> . 1987; 106(5): 682-686. DOI: 10.7326/0003-4819-106-5-682	No associations of interest: the study does not report delirium (there is only a category of "confused or demented")
296	Niemeyer-Guimaraes M, Cendoroglo MS, Mello-Almada C. FUNCTIONAL CAPACITY OF OLDER ADULTS UNDERGOING CORONARY ARTERY BYPASS GRAFT SURGERY: A 6 MONTHS FOLLOW-UP. <i>Journal of General Internal Medicine</i> . 2013; 28: S80. DOI: 10.1007/s11606-013-2436-y	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
297	Nijmeijer WS, Folbert EC, Vermeer M, Vollenbroek-Hutten MMR, Hegeman JH. The consistency of care for older patients with a hip fracture: are the results of the integrated orthogeriatric treatment model of the Centre of Geriatric Traumatology consistent 10 years after implementation? <i>Archives of Osteoporosis</i> . 2018; 13(1): 131. DOI: 10.1007/s11657-018-0550-5	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
298	Ninan S. Don't assume urinary tract infection is the cause of delirium in older adults. <i>British Medical Journal</i> . 2013; 346: f3005. DOI: 10.1136/bmj.f3005	Not a primary study (review/comment)
299	Ninan S, Walton C, Barlow G. Investigation of suspected urinary tract infection in older people. <i>British Medical Journal</i> . 2014; 349: g4070. DOI: 10.1136/bmj.g4070	Case report/series
300	Ocampo Chaparro JM, Leon Giraldo H, Reyes-Ortiz CA. Factors associated with hypoalbuminemia among hospitalized elderly in a geriatrics unit. <i>Journal of the American Geriatrics Society</i> . 2016; 64: S53. DOI: 10.1111/jgs.14231	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
301	Ochs M. Surgical Management of the Hip in the Elderly Patient. <i>Clinics in Geriatric Medicine</i> . 1990; 6(3): 571-587. DOI: 10.1016/s0749-0690(18)30605-0	Not a primary study (review/comment)
302	O'Donnell AJ, Walsh T, Weinberg L, Tang A. The Impact of the Hospital Elder Life Program on Diagnosis and Treatment of Presumed Urinary Tract Infections. <i>Journal of the American Geriatrics Society</i> . 2018; 66: S108. DOI: 10.1111/jgs.15376	No associations of interest: the study does not report delirium
303	O'Donnell AJ, Walsh TL, Tang A, Weinberg L. The impact of the Hospital Elder Life Program on the treatment of asymptomatic bacteriuria: An unexpected benefit. <i>Geriatric Nursing</i> . 2019; 40(5): 473-477. DOI: 10.1016/j.gerinurse.2019.03.011	No associations of interest: the study does not report delirium
304	Oichi T, Oshima Y, Matsui H, Fushimi K, Tanaka S, Yasunaga H. Can Elective Spine Surgery Be Performed Safely Among Nonagenarians? Analysis of a National	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other

	Inpatient Database in Japan. <i>Spine</i> . 2019; 44(5): E273-E281. DOI: 10.1097/BRS.0000000000002842	
305	Ojeda J, Gallego E, Esparrago I, Herrera M. Choosing wisely: perhaps general anesthesia is not the safest option for hip fracture elderly patients. <i>Journal of the American Geriatrics Society</i> . 2018; 66: S311. DOI: 10.1111/jgs.15376	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
306	Ola BA, Crabb J, Krishnadas R, Erinfolami AR, Olagunju A. Incidence and correlates of delirium in a West African mental health clinic. <i>General Hospital Psychiatry</i> . 2010; 32(2): 176-181. DOI: 10.1016/j.genhosppsych.2009.10.005	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
307	Olofsson B. Old people with femoral neck fracture: delirium, malnutrition and surgical methods - an intervention program. Dissertation, Umeå University. 2007. ISBN: 978-91-7264-286-7	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
308	Paletta NJ, Wang AK, Miller BJ. Recurrent urinary tract infections in psychotic mood disorders. <i>Schizophrenia Research</i> . 2017; 184: 137-138. DOI: 10.1016/j.schres.2016.11.035	No associations of interest: the study does not report delirium
309	Pasinska P, Kowalska K, Klimiec E, Szyper-Maciejowska A, Wilk A, Klimkowicz-Mrowiec A. Frequency and predictors of post-stroke delirium in PROspective Observational POLish Study (PROPOLIS). <i>Journal of Neurology</i> . 2018; 265(4): 863-870. DOI: 10.1007/s00415-018-8782-2	Wrong age group (non-delirious group)
310	Pedersen SJ, Borgbjerg FM, Schousboe B, Pedersen BD, Jorgensen HL, Duus BR, Lauritzen JB. A Comprehensive Hip Fracture Program Reduces Complication Rates and Mortality. <i>Journal of the American Geriatrics Society</i> . 2008; 56(10): 1831-1838. DOI: 10.1111/j.1532-5415.2008.01945.x	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
311	Perez ED. HIP FRACTURE: PHYSICIANS TAKE MORE ACTIVE ROLE IN PATIENT CARE. <i>Geriatrics</i> . 1994; 49(4): 31-37. PMID: 8163213	Not a primary study (review/comment)
312	Petrino R, Tua A, Salvi F. Urinary Tract Infections in Older Patients. <i>Geriatric Emergency Medicine</i> . 2017; 16: 235-246. DOI: 10.1007/978-3-319-19318-2_16	Not a primary study (review/comment)
313	Pfandlsteiner T, Greiner B, Wimmer C. Dorsoventral Spinal Fusion with Instrumentation and decompression in degenerative instability vs. Dorsal Instrumentation with decompression combined with posterolateral Fusion in the lumbar spine in old patients. Open vs MIS access. <i>European Spine Journal</i> . 2012; 21(11): 2363. DOI: 10.1007/s00586-012-2522-6	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
314	Pinnell R, Joo P. Emergency department practice patterns of UTI investigation among the delirious elderly: a retrospective chart review. <i>Canadian Journal of Emergency Medicine</i> [Conference Publication: Canadian Association of Emergency Physicians (CAEP/ACMU) Conference, June 1-4, 2020, Ontario, Canada]. 2020; 22(s1): S81. DOI: 10.1017/cem.2020.253	No control group
315	Plaha P, Chari A, Haslam N, Pereira E, Rogers A, Korevaar T, Karavitaki N, Grossman A, Cudlip S. Pituitary Tumor Surgery in the Elderly: Perioperative Complications and Long-Term Outcome. <i>Journal of Neurological Surgery, Part B: Skull Base</i> [Conference Publication: 6th International Congress World Federation of Skull Base Societies and 10th European Skull Base Society Congress Sussex United Kingdom]. 2012; 73. DOI: 10.1055/s-0032-1314047	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
316	Plaza-Carmona M, Requena-Hernandez C, Jimenez-Mola S. Predictors of Delirium in Octogenarian Patients Hospitalized for a Hip Fracture. <i>International Journal of</i>	Loss of quantitative data, the authors were contacted but did not provide the necessary data.

	Environmental Research and Public Health. 2020; 17(20): 1-10. DOI: 10.3390/ijerph17207467	
317	Radinovic K, Markovic-Denic L, Dubljanin-Raspopovic E, Marinkovic J, Milan Z, Bumbasirevic V. Estimating the effect of incident delirium on short-term outcomes in aged hip fracture patients through propensity score analysis. <i>Geriatrics and Gerontology International</i> . 2015; 15(7): 848-855. DOI: 10.1111/ggi.12358	Loss of quantitative data, the authors could not be contacted
318	Rahayu RA, Boedhi-Darmojo R. Incidence and cause of acute confusion in elderly patients. <i>Medical Journal of Indonesia</i> . 2002; 11(1): 30-35. DOI: 10.13181/mji.v11i1.47	No control group
319	Ramadan H, Patterson C, Maguire S, Melvin I, Kain K, Teale E, Forster A. STROKE COMPLICATIONS AT BRADFORD ROYAL INFIRMARY, BRADFORD, UK. <i>European Stroke Journal</i> . 2016; 1(1 supplement): 124-125. DOI: 10.1177/2396987316642909	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
320	Ramaswamy A, Bahuva R, Alraies C, Rajamanickam A, Harte B. Review of Predictors and Negative Outcomes Associated with Patients Who Exceed Their Expected Length of Stay. <i>Journal of Hospital Medicine</i> . 2010; 5(Suppl 1): 63-64. DOI: 10.1002/jhm.705	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
321	Rampersaud RY, Lin C, Chrysostoum CV. Looking Beyond the Clinical Box: The Health Services Impact of Surgical Adverse Events. <i>The Spine Journal</i> . 2012; 12(9): 86S-87S. DOI: 10.1016/j.spinee.2012.08.242	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
322	Rampersaud RY, Sarro AM, Magtoto R, Neary MA, Massicotte EM, Lewis SJ, Fehlings MG. Risk Factors for the Development of Adverse Events in Spinal Surgery: A Prospective Study of 1,815 Patients. <i>The Spine Journal</i> . 2012; 12(9): 95S. DOI: 10.1016/j.spinee.2012.08.263	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
323	Ranhoff AH, Holvik K, Martinsen MI, Domaas K, Solheim LF. Older hip fracture patients: three groups with different needs. <i>BMC Geriatrics</i> . 2010; 10(1): 65. DOI: 10.1186/1471-2318-10-65	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
324	Rao A, Suliman A, Vuik S, Aylin P, Darzi A. Outcomes of dementia: Systematic review and meta-analysis of hospital administrative database studies. <i>Archives of Gerontology and Geriatrics</i> . 2016; 66: 198-204. DOI: 10.1016/j.archger.2016.06.008	Not a primary study (review/comment)
325	Rodriguez Sanjuan MDP, Arroyo C, Grantham SJ, Sanguino Caso J. Benefits of admittance to a functional recovery unit for elderly patients. <i>European Geriatric Medicine</i> . 2011; 2S: S44-S45. DOI: 10.1016/j.eurger.2011.06.002	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
326	Rosa R, Tonietto T, Ascoli A, Madeira L, Rutzen W, Falavigna M, Robinson C, Salluh J, Cavalcanti A, Azevedo L, Cremonese R, Da Silva D, Dornelles A, Skrobik Y, Teles J, Ribeiro T, Eugênio C, Teixeira C. Effectiveness and safety of an extended visitation policy in the ICU: a before and after study. <i>Critical Care [Conference Publication: 37th International Symposium on Intensive Care and Emergency Medicine. Belgium]</i> . 2017; 21(Suppl 1): 53. DOI: 10.1186/s13054-017-1630-4	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
327	Rose JW, Engel GL. DELIRIUM IN THE ELDERLY PATIENT. <i>The New England Journal of Medicine</i> . 1989; 321(4): 264. DOI: 10.1056/NEJM198907273210418	Not a primary study (review/comment)
328	Rothberg MB, Herzig SJ, Pekow PS, Avrunin J, Lagu T, Lindenauer PK. Association Between Sedating Medications and Delirium in Older Inpatients. <i>Journal of the American Geriatrics Society</i> . 2013; 61(6): 923-930. DOI: 10.1111/jgs.12253	Wrong control group (matched controls)

329	Roubaud-Baudron C, Gavazzi G. Bacteremia in the elderly population. [French]. Les Cahiers de L'annee Gerontologique. 2014; 6(3): 102-106. DOI: 10.1007/s12612-014-0404-8	Not a primary study (review/comment)
330	Sabartes Fortuny O, Sanchez Rodriguez D, Pi-Figueras Valls M, Abadia Escartin A, Gutierrez Cebollada J, SabateGarcia RA. Let us be proactive! Evolution and tendencies of clinical assistance in a subacute care geriatric unit. European Geriatric Medicine. 2011; 2S: S55. DOI: 10.1016/j.eurger.2011.06.002	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
331	Sabzwari S, Kumar D, Bhanji S, Sheerani M, Azhar G. Proportion, Predictors and Outcomes of Delirium at a Tertiary care Hospital in Karachi, Pakistan. Ageing International. 2014; 39(1): 33-45. DOI: 10.1007/s12126-012-9152-5	No associations of interest: wrong diagnostic process (the method of establishing a diagnosis of delirium does not meet the protocol requirements)
332	Sanchez-Castellano C, Perez-Abascal N, Torremocha-Garcia R, Montero-Erassquin B, Mateos-Nozal J, Cruz-Jentoft AJ. Predictors of culture positive urinary tract infection in the emergency department. European Geriatric Medicine. 2012; 3S: S76. DOI: 10.1016/j.eurger.2012.07.146	No associations of interest: the study does not report delirium
333	Saritas T. Acute Renal Failure, Confusion and Petechiae after an Infection in Egypt. [German]. Der Nephrologe. 2013; 8(5): 423-425. DOI: 10.1007/s11560-012-0715-y	Case report/series
334	Satue JA, Belinchon JC, Perez Martin A, Marrero J, Luaces M, Zapatero A. Clinical profile, comorbidities and prognosis in a spanish cohort of elderly patients with acute decompensated heart failure. European Journal of Heart Failure Supplements. 2011; 10: S24-S25. DOI: 10.1093/eurjhf/hsr003	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
335	Savani C, Kumar V, Singh T, Yi X, Pathak A, Chib A, Renati S. Delirium is Associated With Increased Readmissions and Mortality in Patients With Acute Ischemic Stroke. Stroke [Conference Publication: International Stroke Conference 2019, Honolulu, Hawaii, USA]. 2019; 50: Abstract TP358. DOI: 10.1161/str.50.suppl_1.TP358	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
336	Schneidinger CS, Umek W, Bohmdorfer B. The Problem of Polypharmacy in Female Patients with Overactive Bladders - Cross-Sectional Study in a Specialist Outpatient Department. Geburtshilfe Und Frauenheilkunde. 2016; 76(12): 1318-1324. DOI: 10.1055/s-0042-114221	Case report/series
337	Scholz C, Klingler JH, Scheiwe C, Naseri Y, Masalha W, Hubbe U. Atlantoaxial Instability in Patients Older Than 70 Years: What Is the Outcome When Further Conservative Treatment Is Not an Option? Journal of Neurological Surgery, Part A: Central European Neurosurgery. 2018; 79(5): 372-379. DOI: 10.1055/s-0038-1646958	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
338	Schor JD, Levkoff SE, Lipsitz LA, Reilly CH, Cleary PD, Rowe JW, Evans DA. Risk Factors for Delirium in Hospitalized Elderly. JAMA: The Journal of the American Medical Association. 1992; 267(6): 827-831. DOI: 10.1001/jama.1992.03480060073033	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
339	Sever R, Gold A, Segal O, Regev G, Keynan O, Salai M, Justo D. Admission Norton scale scores (ANSS) are associated with post-operative complications following spine fracture surgery in the elderly. Archives of Gerontology and Geriatrics. 2012; 55(1): 177-180. DOI: 10.1016/j.archger.2011.08.007	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
340	Shacham N, Lerman Y, Justo D. Low Norton scale scores are associated with medical complications other than	No associations of interest: the study reports delirium and UTI/asymptomatic

	pressure ulcers during rehabilitation in the elderly. <i>European Geriatric Medicine</i> . 2013; 4(2): 91-94. DOI: 10.1016/j.eurger.2012.11.001	bacteriuria, but not in relation to each other
341	Shah CA, Lampert R. Incidence and Burden of "Missed Primary Prevention ICDs" Among Out-of-Hospital Cardiac Arrests. <i>Circulation [Conference Publication: American Heart Association]</i> . 2013; 128(Suppl 22): Abstract 14173. ISSN: 0009-7322	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
342	Shahid K, Alamri Y, Scowcroft H, Dixon L, Creighton J, Isenman H, Metcalf S, Chambers S. Urinalysis orders and yield among General Medicine patients: a single-centre's experience in New Zealand. <i>The New Zealand Medical Journal</i> . 2019; 132(1488): 21-27. PMID: 31851658	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
343	Shi B, Wang J, Yang H, Zhang DW, Liu G, Wang T, Ye N. Emergency operation for the treatment of intertrochanteric fractures in elderly patients. [Chinese]. <i>China journal of orthopaedics and traumatology</i> . 2013; 26(5): 408-411. PMID: 23937035	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
344	Shin WC, Do MU, Woo SH, Choi SH, Moon NH, Suh KT. C-reactive protein for early detection of postoperative systemic infections in intertrochanteric femoral fractures. <i>Injury</i> . 2018; 49(10): 1859-1864. DOI: 10.1016/j.injury.2018.07.029	Loss of quantitative data, the authors could not be contacted
345	Siddarth KV, Surya P, Saif D, Gupta A. MEDICAL AND SURGICAL COMPLICATIONS IN HIP FRACTURE PATIENTS SUPPORTS NEED FOR COLLABORATIVE HIP UNIT. <i>Osteoporosis International</i> . 2014; 25(Suppl 6): S724-S725. DOI: 10.1007/s00198-014-2893-0	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
346	Silver SA, Baillie L, Simor AE. Positive urine cultures: A major cause of inappropriate antimicrobial use in hospitals? <i>Canadian Journal of Infectious Diseases and Medical Microbiology</i> . 2009; 20(4): 107-111. DOI: 10.1155/2009/702545	Wrong age group
347	Sircar K, Knoop F, Wingen C, Westermann L, Eysel P, Scheyerer MJ. Postoperative delirium in spine surgery - Incidence and risk factors in geriatric patients. <i>European Spine Journal [Conference Publication: 13th German Spine Congress Annual Meeting of the German Spine Society, Germany]</i> . 2018; 27(11): 2927. DOI: 10.1007/s00586-018-5770-2	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
348	Smith TO, Cooper A, Peryer G, Griffiths R, Fox C, Cross J. Factors predicting incidence of post-operative delirium in older people following hip fracture surgery: a systematic review and meta-analysis. <i>International Journal of Geriatric Psychiatry</i> . 2017; 32(4): 386-396. DOI: 10.1002/gps.4655	Not a primary study (review/comment)
349	Sobesky J, Madai VI, Wiedmann S, Bauer M, Wellwood I, Malsch C, Hausler KG, Schmitz B, Mackert BM, Koennecke HC, Nabavi DG, Kleinschnitz C, Dichgans M, Endres M, Dirnagl U, Heuschmann PU. EARLY COMPLICATIONS AFTER ISCHEMIC STROKE AND STROKE OUTCOME: FIRST RESULTS FROM THE STROKEUNIT PLUS STUDY. <i>European Stroke Journal</i> . 2016; 1(1 supplement): 379-380. DOI: 10.1177/2396987316642909	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
350	Sorbye LW, Grue EV. Hip fracture and urinary incontinence - use of indwelling catheter postsurgery. <i>Scandinavian Journal of Caring Sciences</i> . 2013; 27(3): 632-642. DOI: 10.1111/j.1471-6712.2012.01075.x	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
351	Soroceanu A, Burton DC, Oren JH, Smith JS, Hostin R, Shaffrey CI, Akbarnia BA, Ames CP, Errico TJ, Bess S, Gupta MC, Deviren V, Schwab FJ, Lafage V. Medical	No associations of interest: the study reports delirium and UTI/asymptomatic

	Complications after Adult Spinal Deformity Surgery: Incidence, Risk factors, and Clinical Impact. <i>Spine</i> . 2016; 41(22): 1718-1723. DOI: 10.1097/BRS.0000000000001636	bacteriuria, but not in relation to each other
352	Srinivas S, Fisher C, Boyd M, Paquette S, Kwon B, Ailon T, Morin RC, Dvorak M, Street J, Dea N. Adverse Events Profile in EN Bloc Resection and Surgery for Primary Bone Tumor. <i>Global Spine Journal</i> . 2018; 8(1 suppl): 150S-151S. DOI: 10.1177/2192568218771030	No associations of interest: the study does not report delirium
353	St Bernard R, Chodirker L, Masih-Khan E, Jiang H, Franke N, Kukreti V, Tiedemann R, Trudel S, Reece D, Chen C. Efficacy, toxicity and mortality of autologous SCT in multiple myeloma patients with dialysis-dependent renal failure. <i>Bone Marrow Transplantation</i> . 2014; 50(1): 95-99. DOI: 10.1038/bmt.2014.226	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
354	Stenvall M, Berggren M, Lundstrom M, Gustafson Y, Olofsson B. A multidisciplinary intervention program improved the outcome after hip fracture for people with dementia-Subgroup analyses of a randomized controlled trial. <i>Archives of Gerontology and Geriatrics</i> . 2012; 54(3): e284-e289. DOI: 10.1016/j.archger.2011.08.013	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
355	Street JT, Noonan VK, Cheung A, Fisher CG, Dvorak MF. Incidence of acute care adverse events and long-term health-related quality of life in patients with TSCI. <i>The Spine Journal</i> . 2015; 15(5): 923-932. DOI: 10.1016/j.spinee.2013.06.051	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
356	Su YJ, Lai YC, Liao CJ. Hazardous factors besides infection in hypoglycemia. <i>Biomedical Reports</i> . 2017; 6(4): 480-484. DOI: 10.3892/br.2017.872	No associations of interest: the study does not report delirium
357	Sugimura Y, Sipahi NF, Mehdiani A, Petrov G, Awe M, Minol JP, Boeken U, Korbmacher B, Lichtenberg A, Dalyanoglu H. Risk and Consequences of Postoperative Delirium in Cardiac Surgery. <i>The Thoracic and Cardiovascular Surgeon</i> . 2020; 68(5): 416-423. DOI: 10.1055/s-0040-1708046	Wrong age group
358	Suleman A, Krakovsky J, Joo P. Treatment of asymptomatic bacteriuria in elderly patients with delirium: a systematic review. <i>Canadian Journal of Emergency Medicine</i> . 2018; 20(Suppl 1): S11-S12. DOI: 10.1017/cem.2018.77	Not a primary study (review/comment)
359	Sundvall PD, Elm M, Ulleryd P, Molstad S, Rodhe N, Jonsson L, Andersson B, Hahn-Zoric M, Gunnarsson R. Interleukin-6 concentrations in the urine and dipstick analyses were related to bacteriuria but not symptoms in the elderly: a cross sectional study of 421 nursing home residents. <i>BMC geriatrics</i> . 2014; 14: 88. DOI: 10.1186/1471-2318-14-88	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
360	Sundvall PD, Ulleryd P, Gunnarsson RK. Urine culture doubtful in determining etiology of diffuse symptoms among elderly individuals: a cross-sectional study of 32 nursing homes. <i>BMC Family Practice</i> . 2011; 12: 36. DOI: 10.1186/1471-2296-12-36	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
361	Svab J. Surgery in the Elderly. [Czech]. <i>Rozhledy v chirurgii: měsíčník Československé chirurgické společnosti</i> . 2005; 84(11): 552-556. PMID: 16334936	Not a primary study (review/comment)
362	Tabbi L, Tonelli R, Fantini R, Castaniere I, Bruzzi G, Nani C, Caffarri L, Sacchi M, Spacone A, Dongilli R, Boni E, Falsini L, Ribuffo V, Marchioni A, Clini E. INCIDENCE AND PREDICTORS OF DELIRIUM IN PATIENTS WITH ACUTE RESPIRATORY FAILURE UNDERGOING NON-INVASIVE MECHANICAL VENTILATION. <i>Chest</i> . 2020; 157 (6 Supplement): A410. DOI: 10.1016/j.chest.2020.05.460	No associations of interest: the study does not report UTI or asymptomatic bacteriuria

363	Takeuchi D, Koide N, Suzuki A, Ishizone S, Shimizu F, Tsuchiya T, Kumeda S, Miyagawa S. Postoperative complications in elderly patients with gastric cancer. <i>Journal of Surgical Research</i> . 2015; 198(2): 317-326. DOI: 10.1016/j.jss.2015.03.095	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
364	Tasar PT, Sahin S, Akcam NO, Dinckal C, Ulusoy MG, Sarikaya OF, Duman S, Akcicek F, Noyan A. Delirium is associated with increased mortality in the geriatric population. <i>International Journal of Psychiatry in Clinical Practice</i> . 2018; 22(3): 200-205. DOI: 10.1080/13651501.2017.1406955	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
365	Thayabaran D, Hindley E, Schiff R. TRIAL WITHOUT CATHETER: THE ROLE OF BLADDER FILLING PRIOR TO REMOVAL OF URETHRAL CATHETERS. A SYSTEMATIC REVIEW OF RANDOMISED CONTROLLED TRIALS. <i>Age and Ageing</i> . 2019; 48: i32. DOI: 10.1093/ageing/afy204.08	Not a primary study (review/comment)
366	Tifuh Amba K. Delirium in the Elderly Adult in Critical Care. <i>Critical Care Nursing Clinics of North America</i> . 2014; 26(1): 139-145. DOI: 10.1016/j.ccell.2013.10.008	Not a primary study (review/comment)
367	Tingstrom P, Milberg A, Sund-Levander M. Early nonspecific signs and symptoms of infection in institutionalized elderly persons: perceptions of nursing assistants. <i>Scandinavian Journal of Caring Sciences</i> . 2010; 24(1): 24-31. DOI: 10.1111/j.1471-6712.2008.00680.x	No associations of interest: the study reports neither delirium nor UTI/asymptomatic bacteriuria
368	Tsang LF, Yeung CH, Tse CC, Lam KB, Cheung LP, Chu KK, Tsang CK, Wong CK, Law HW, Hung T, Lau PY. Developing a predictive tool for post-operative delirium in orthopaedic settings in Hong Kong. <i>International Journal of Orthopaedic and Trauma Nursing</i> . 2012; 16(3): 147-159. DOI: 10.1016/j.ijotn.2012.03.005	Wrong age group
369	Ubis Diez E, Abad Ruiz A, Palacin Arino C. Functional evolution and need for resources in geriatric patients with hip fracture. <i>European Geriatric Medicine</i> . 2011; 2: S89-S90. DOI: 10.1016/j.eurger.2011.06.002	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
370	Unneby A, Svensson PO, Gustafson PY, Lindgren APB-M, Bergstrom U, Olofsson PB. Complications with focus on delirium during hospital stay related to femoral nerve block compared to conventional pain management among patients with hip fracture - A randomised controlled trial. <i>Injury</i> . 2020; 51(7): 1634-1641. DOI: 10.1016/j.injury.2020.04.013	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
371	Van Munster BC, De Rooij SE. Delirium: a synthesis of current knowledge. <i>Clinical Medicine</i> . 2014; 14(2): 192-195. DOI: 10.7861/clinmedicine.14-2-192	Not a primary study (review/comment)
372	Van Waarde JA, van der Mast RC. Delirium in learning disability: case series and literature review. <i>British Journal of Learning Disabilities</i> . 2004; 32(3): 123-127. DOI: 10.1111/j.1468-3156.2004.00269.x	Case report/series
373	Varghese Gupta S, Dharia S, Shaeer K. DIAGNOSIS, ASSESSMENT, AND MANAGEMENT OF URINARY TRACT INFECTIONS IN ASSISTED LIVING FACILITY RESIDING POSTMENOPAUSAL WOMEN WITH DEMENTIA: A RETROSPECTIVE REVIEW. <i>Value in Health</i> . 2016; 19(3): A211-A212. DOI: 10.1016/j.jval.2016.03.1233	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
374	Vasudevan VN, Thomas D, Flaherty J, Bassil N, Vegi S. Delirium associated with urinary tract infection. <i>Journal of the American Geriatrics Society</i> . 2009; 57: S186. DOI: 10.1111/j.1532-5415.2009.02272.x	No associations of interest: wrong condition (patients with urinary tract infection and asymptomatic bacteriuria are put together in one group)
375	Vevatne V, Ranhoff AH, Alaburic S, Svendsen T, Mensen L, Engstad T, Engvik A. Acute functional decline in patients	No associations of interest: the study reports delirium and UTI/asymptomatic

	admitted for acute geriatric care. <i>European Geriatric Medicine</i> . 2015; 6: S42. DOI: 10.1016/s1878-7649(15)30143-1	bacteriuria, but not in relation to each other
376	Volland J, Fisher A, Drexler D. Delirium and Dementia in the Intensive Care Unit: Increasing Awareness for Decreasing Risk, Improving Outcomes, and Family Engagement. <i>Dimensions of critical care nursing</i> . 2015; 34(5): 259-264. DOI: 10.1097/DCC.000000000000133	Not a primary study (review/comment)
377	Wang J, Yu S, Li C, Zang J, Wang Y. Treatment of intertrochanteric fractures with forwardly and angularly displaced proximal part. [Chinese]. <i>Chinese Journal of Reparative and Reconstructive Surgery</i> . 2018; 32(9): 1162-1166. DOI: 10.7507/1002-1892.201711099	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
378	Ward K, Bungo C, Naumovski J, Nace D. Revisiting Antibiotic Stewardship in Long term Care Residents. <i>Journal of the American Geriatrics Society</i> . 2017; 65: S36. DOI: 10.1111/jgs.14915	No control group
379	Warshaw G, Tanzer F. The Effectiveness of Lumbar Puncture in the Evaluation of Delirium and Fever in the Hospitalized Elderly. <i>Archives of family medicine</i> . 1993; 2(3): 293-297. PMID: 8252150	Case report/series
380	Wetterling T. Somatic Diseases in Elderly Patients with Delirium. [German]. <i>Zeitschrift fur Gerontopsychologie und -psychiatrie</i> . 2005; 18(1): 3-7. DOI: 10.1024/1011-6877.18.1.3	Loss of quantitative data (the study reports data about treatment periods and not about rates of UTI or asymptomatic bacteriuria in patients with and without delirium)
381	Woo MY, Bradley J, Moore S, Liew A, Lalonde K, Stiell IG. Pilot prospective cohort study for the use of ultrasound guided 3 in 1 femoral nerve blocks in a tertiary care emergency department in patients presenting with a hip fracture. <i>Canadian Journal of Emergency Medicine</i> . 2014; 15 (Suppl 1): S41. DOI: 10.1017/S1481803500003171	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
382	Wu X, Chen JC, Wang WL, Hao B, Chen X, Hu XW. Long-term follow-up study on the safety of deep brain stimulation for treating Parkinson's disease. [Chinese]. <i>Chinese Journal of Contemporary Neurology and Neurosurgery</i> . 2015; 15(10): 790-794. DOI: 10.3969/j.issn.1672-6731.2015.10.005	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
383	Wu X, Sun W, Tan M. Incidence and Risk Factors for Postoperative Delirium in Patients Undergoing Spine Surgery: A Systematic Review and Meta-Analysis. <i>BioMed Research International</i> . 2019; 2019: 1-20. DOI: 10.1155/2019/2139834	Not a primary study (review/comment)
384	Wurzinger B, Duenser MW, Wohlmuth C, Deutinger MC, Ulmer H, Torgersen C, Schmittinger CA, Grandner W, Hasibeder WR. The association between body-mass index and patient outcome in septic shock: a retrospective cohort study. <i>Wiener Klinische Wochenschrift</i> . 2010; 122(1): 31-36. DOI: 10.1007/s00508-009-1241-4	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
385	Yamada U, Yokota K, Ohta D, Furukawa K. Delirium could be an indicator of sepsis in patients under 65 years old with urinary tract infections. <i>Critical Care</i> . 2012; 16(Suppl 1): S121. DOI: 10.1186/cc10943	No control group
386	Yang Q, Wang J, Huang X, Xu Y, Zhang Y. Incidence and risk factors associated with postoperative delirium following primary elective total hip arthroplasty: a retrospective nationwide inpatient sample database study. <i>BMC Psychiatry</i> . 2020; 20(1): 343. DOI: 10.1186/s12888-020-02742-6	No associations of interest: the study does not report UTI or asymptomatic bacteriuria

387	Yang Y, Liu B, Shi T. INCIDENCE, PREDICTORS AND OUTCOMES OF POSTOPERATIVE DELIRIUM FOLLOWING CORONARY ARTERY BYPASS GRAFTING. <i>Journal of the American College of Cardiology</i> . 2020; 75 (11): 139. DOI: 10.1016/S0735-1097(20)30766-X	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
388	Yessengaliyeva E, Nagar A, Westerman P. Asymptomatic bacteriuria and Dementia Deterioration in Older Females Admitted to a Gero-Psychiatric Unit. <i>The American Journal of Geriatric Psychiatry</i> . 2014; 22(3): S67-S68. DOI: 10.1016/j.jagp.2013.12.072	No associations of interest: the study does not report delirium
389	Yi X, Kumar V, Savani C, Singh T, Renati S. Delirium is Associated with Increased Readmissions and Mortality in Patients with Acute Ischemic Stroke. <i>Neurology [Conference Publication: 71st Annual Meeting of the American Academy of Neurology, AAN]</i> . 2019; 92(15).	Repetitive publication. The same data is provided in the article: Savani C, Kumar V, Singh T, Yi X, Pathak A, Chib A, Renati S. Delirium is Associated With Increased Readmissions and Mortality in Patients With Acute Ischemic Stroke. <i>Stroke [Conference Publication: International Stroke Conference 2019, Honolulu, Hawaii, USA]</i> . 2019; 50: Abstract TP358. DOI: 10.1161/str.50.suppl_1.TP358
390	Yong DH, Ngeo I. Elderly Orthopedic Patients Transferred to an Intermediate Care Facility in Singapore - A One Year Review. <i>Journal of the American Medical Directors Association</i> . 2010; 11(3): B10. DOI: 10.1016/j.jamda.2009.12.026	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
391	Yue S, Ker J, Ullal MJ, Su S, Mok WQ, Yiap PL, Yu LH, Ming S, Lim M, Hong AL. The use of a urinary tract management protocol in an integrated hip fracture unit to reduce urinary tract infections. <i>European Geriatric Medicine</i> . 2017; 8(Suppl 1): S241. ISSN: 1878-7649	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
392	Zamora A, Lopez Camacho C, Baeza V. The Delirium in a Service of Palliative Care. <i>Palliative Medicine</i> . 2010; 24(4): S133. DOI: 10.1177/0269216310366390	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
393	Zanni GR, Wick JY. Hip Fracture: Improving the Outcome. <i>The Consultant Pharmacist</i> . 2007; 22(9): 712-724. DOI: 10.4140/TCP.n.2007.710	Not a primary study (review/comment)
394	Zipser CM, Deuel J, Ernst J, Schubert M, von Kanel R, Bottger S. The predisposing and precipitating risk factors for delirium in neurosurgery: a prospective cohort study of 949 patients. <i>Acta Neurochirurgica</i> . 2019; 161(7): 1307-1315. DOI: 10.1007/s00701-019-03927-z	No associations of interest: the study does not report UTI or asymptomatic bacteriuria
395	Zuliani G, Galvani M, Sioulis F, Bonetti F, Prandini S, Boari B, Guerzoni F, Gallerani M. Discharge diagnosis and comorbidity profile in hospitalized older patients with dementia. <i>International Journal of Geriatric Psychiatry</i> . 2011; 27(3): 313-320. DOI: 10.1002/gps.2722	No associations of interest: the study reports delirium and UTI/asymptomatic bacteriuria, but not in relation to each other
396	Zycinska K, Wardyn KA, Nitsch-Osuch A. Specificity and nature of urinary tract infections (UTIs) in elderly patients referred to hospital by GPs. <i>Family Medicine and Primary Care Review</i> . 2007; 9(3): 665-669. ISSN: 1734-3402	No control group

Supplementary Table S4
Quality assessment of included studies according to the Newcastle-Ottawa Scale

	Selection				Comparability		Outcome			
NEWCASTLE-OTTAWA SCALE FOR CASE CONTROL STUDIES	1	2	3	4	5	6	7	8	9	Score
Gau, 2009	1a	1a	0b	1a	1a, age	0	0d	1a	1a	6
Perez-Ros, 2018	1a	1a	1a	1a	0	0	0d	1a	1a	6
Stroomer-van Wijk, 2016	1a	1a	1a	1a	0	0	0d	1a	1a	6
NEWCASTLE-OTTAWA SCALE FOR COHORT STUDIES	1	2	3	4	5	6	7	8	9	Score
Alvarez-Perez, 2017	1b	1a	1a	0b	0	0	1b	1a	1a	6
Anderson, 2010	1b	1a	1a	0b	0	0	1b	1a	1a	6
Arshi, 2018	1b	1a	0d	0b	0	0	1b	1a	1a	5
Brouquet, 2010	1b	1a	1a	0b	0	0	1b	1a	1a	6
Edlund, 2001	1b	1a	1a	0b	0	0	0d	1a	1a	5
Edlund, 2006	1b	1a	1a	0b	0	0	1b	1a	1a	6
Elsamadicy, 2017	1b	1a	1a	0b	0	0	1b	1a	1a	6
Gual, 2018	1b	1a	1a	0b	0	0	1b	1a	1a	6
Jitapunkul, 1992	1b	1a	1a	0b	0	0	1b	1a	1a	6
Khurana, 2002	1b	1a	1a	0b	0	0	1b	1a	1a	6
Kobayashi, 2017	1b	1a	0d	0b	0	0	1b	1a	1a	5
Large, 2013	1b	1a	1a	0b	0	0	1b	1a	1a	6
Lundström, 2004	1b	1a	1a	0b	0	0	1b	1a	1a	6
Lundström, 2005	1b	1a	1a	0b	0	0	1b	1a	1a	6
Marcantonio, 2005	1b	1a	1a	0b	0	0	1b	1a	1a	6
Morandi, 2019	1b	1a	1a	0b	0	0	1b	1a	1a	6
Olofsson, 2005	1b	1a	1a	0b	0	0	1b	1a	1a	6
Olofsson, 2018	1b	1a	1a	0b	0	0	1b	1a	1a	6
Raats, 2015	1b	1a	1a	0b	0	0	1b	1a	1a	6
Schuurmans, 2003	1b	1a	1a	0b	0	0	1b	1a	1a	6
Wojszel, 2018	1b	1a	1a	0b	0	0	1b	1a	1a	6
NEWCASTLE-OTTAWA SCALE FOR CROSS-SECTIONAL STUDIES	1	2	3	4	5	6	7	8		Score
Amado Tineo, 2013	1b	1a	1a	1a	0	0	1b	1a		6
de Bortoli Pereira, 2018	1b	1a	1a	1a	0	0	1b	1a		6
Eriksson, 2010	1b	1a	1a	0c	1a, gender	0	1b	1a		6
Eriksson, 2011	1b	1a	1a	1a	1a, gender	0	1b	1a		7
Sandberg, 1999	1b	1a	1a	1a	1a, gender	0	0d	1a		6

Supplementary Table S5
Complete list of all moderators of the meta-regression analysis

Moderator	Type of moderator	Number of studies
<i>General data</i>		
Publication year	numerical	29
Study country	categorical	29
Study type	categorical	29
Study temporality	categorical	29
Study setting	categorical	29
Method to establish the diagnosis of delirium	categorical	29
Method to establish the diagnosis of UTI	categorical	29
Quality of study (rating on the Newcastle-Ottawa Scale)	numerical	29
Mean age of study participants	numerical	24
Gender (% of male) of study participants	numerical	29
<i>Socioeconomic status (the percentage of participants in the whole study group)</i>		
Institutional care	numerical	10
Independent living	numerical	7
<i>Race/Ethnicity (the percentage of participants in the whole study group)</i>		
Caucasian race	numerical	4
<i>Type and prevalence of medical comorbidities (the percentage of participants in the whole study group)</i>		
Anemia	numerical	4
Atrial fibrillation	numerical	5
Constipation	numerical	6
COPD	numerical	7
Dehydration	numerical	5
Diabetes, unspecified	numerical	13
Falls	numerical	7
Heart failure, unspecified	numerical	14
Hip fracture	numerical	8
Hypertension	numerical	11
Impaired hearing	numerical	8
Impaired vision	numerical	8
Malignancy, unspecified	numerical	5
Malnutrition	numerical	5
Myocardial infarction	numerical	9
Pneumonia	numerical	11
Pulmonary embolism	numerical	4
Renal failure	numerical	7
Smoking	numerical	6
Stroke	numerical	14
Urinary catheter	numerical	8
Urinary retention	numerical	6
<i>Type and prevalence of psychiatric comorbidities (the percentage of participants in the whole study group)</i>		
Dementia	numerical	20
Depression	numerical	10
<i>Type of received medication (and percentage of receiving participants in the whole study group)</i>		
Antidepressants	numerical	5
Benzodiazepines	numerical	5
Diuretics	numerical	4
Drugs with anticholinergic properties	numerical	4
Neuroleptics	numerical	8
Opioids	numerical	6

Supplementary Table S6
List of data from each included study used for meta-regression

Alvarez-Perez, 2017	<p>General data Publication year: 2017; Country of study (categorical moderator): Portugal; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): retrospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 73.9 years; Gender (% of male among all study participants): 52.4%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Atrial fibrillation 27.7%; Diabetes 22.73%; Hypertension 80.62%; Smoking 19.75%; Stroke 100%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 4.35%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Amadeo Tineo, 2013	<p>General data Publication year: 2013; Country of study (categorical moderator): Peru; Type of the study (categorical moderator): cross-sectional; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): scales accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 78.5 years; Gender (% of male among all study participants): 44.2%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Malignancy 22.09%; Renal Failure 8.72%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 19.77%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Benzodiazepines 12.21%; Diuretics 17.44%; Neuroleptics 1.74%</p>
Anderson, 2010	<p>General data</p>

	<p>Publication year: 2010; Country of study (categorical moderator): USA; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): nursing home; Method to establish the diagnosis of delirium (categorical moderator): scales accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 83.6 years; Gender (% of male among all study participants): 34.3%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) COPD 0%; Dehydration 5.14%; Falls 27.14%; Heart Failure 3.71%; Hypertension 0.86%; Malnutrition 0.29%; Myocardial Infarction 0%; Pneumonia 5.43%; Pulmonary Embolism 0%; Renal Failure 0.57; Stroke 0%; Urinary Retention 1.43%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Arshi, 2018	<p>General data Publication year: 2018; Country of study (categorical moderator): USA; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): diagnosis recorded in medical files; Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 5; Gender (% of male among all study participants): 28.5%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) Caucasian race 94.05%</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) COPD 10.72%; Diabetes 17.57%; Heart Failure 4.09%; Hip Fracture 100%; Hypertension 69.04%; Myocardial Infarction 2.97%; Pneumonia 4.25%; Pulmonary Embolism 0.76%; Renal Failure 2.96%; Smoking 8.44%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 31.45%;</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Broquet, 2010	<p>General data Publication year: 2010; Country of study (categorical moderator): France; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator):</p>

	<p>prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): scales accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 81.3 years; Gender (% of male among all study participants): 47.5%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Diabetes 11.86%; Heart Failure 0.85%; Malignancy 87.29%; Myocardial Infarction 2.54%; Pneumonia 7.63%; Pulmonary Embolism 0.85%; Smoking 10.17%; Stroke 0.85%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Opioids 97.46%</p>
<p>De Bortoli Perreira, 2018</p>	<p>General data Publication year: 2018; Country of study (categorical moderator): Brazil; Type of the study (categorical moderator): cross-sectional; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): scales accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 71.2 years; Gender (% of male among all study participants): 64.2%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Renal Failure 12.79%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 13.95%;</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Opioids 5.81%</p>
<p>Edlund, 2001</p>	<p>General data Publication year: 2001; Country of study (categorical moderator): Sweden; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator):</p>

	<p>diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 5; Mean age (all study participants): 78.8 years; Gender (% of male among all study participants): 21.1%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Hip Fracture 100%; Pneumonia 2.82%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 4.23%; Depression 9.86%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Drugs with anticholinergic properties 19.72%; Neuroleptics 11.27%</p>
Edlund, 2006	<p>General data Publication year: 2006; Country of study (categorical moderator): Sweden; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 80.2 years; Gender (% of male among all study participants): 44.3%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Atrial Fibrillation 19.75%; Constipation 7.25%; Diabetes 33%; Heart Failure 25.5%; Hypertension 38%; Malignancy 3.75%; Myocardial Infarction 7.25%; Pneumonia 5.75%; Stroke 21%; Urinary Catheter 4.25%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 2.5%; Depression 3%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Antidepressant 3.25%; Benzodiazepines 6.75%; Diuretics 58%; Neuroleptics 9.5%; Opioids 9.75%</p>
Elsamadicy, 2017	<p>General data Publication year: 2017; Country of study (categorical moderator): USA; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): retrospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total</p>

	<p>score): 6; Mean age (all study participants): 72.5 years; Gender (% of male among all study participants): 46.6%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) Caucasian race 83.66%</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Atrial Fibrillation 8.61%; COPD 3.09%; Diabetes 20.09%; Heart Failure 5.96%; Hypertension 66.23%; Myocardial Infarction 3.53%; Pneumonia 3.97%; Pulmonary Embolism 1.1%; Renal Failure 0.66%; Smoking 11.26%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Eriksson, 2010	<p>General data Publication year: 2010; Country of study (categorical moderator): Sweden; Type of the study (categorical moderator): cross-sectional; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): epidemiological population study; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Gender (% of male among all study participants): 0.0%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Institutional Care 49.48%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Constipation 43.04%; Diabetes 15.19%; Falls 42.03%; Heart Failure 35.19%; Hip Fracture 10.63%; Stroke 10.63%; Urinary Catheter 1.77%;</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 49.62%; Depression 39.24%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Eriksson, 2011	<p>General data Publication year: 2011; Country of study (categorical moderator): Sweden; Type of the study (categorical moderator): cross-sectional; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): epidemiological population study; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 7; Mean age (all study participants): 90.6 years; Gender (% of male among all study participants): 0.0%</p>

	<p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Institutional Care 47.22%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Constipation 42.66%; Heart Failure 32.94%; Hypertension 63.49%; Stroke 1.59%; Urinary Catheter 1.79%;</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 46.43%; Depression 37.9%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Gau, 2009	<p>General data Publication year: 2009; Country of study (categorical moderator): USA; Type of the study (categorical moderator): case-control; Study temporality (categorical moderator): retrospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): diagnosis recorded in medical files; Method to establish the diagnosis of UTI (categorical moderator): microbiological urine tests and presence of UTI symptoms; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 82.4 years; Gender (% of male among all study participants): 22.0%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Institutional Care 36.18%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Diabetes 18.7%; Falls 17.89%; Hypertension 52.85%; Pneumonia 15.04%; Stroke 22.76%; Urinary Catheter 43.9%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Gual, 2018	<p>General data Publication year: 2018; Country of study (categorical moderator): Spain; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): scales accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 85.8 years; Gender (% of male among all study participants): 39.9%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression)</p>

	<p>Institutional Care 24.2%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) COPD 37.18%; Diabetes 33.66%; Heart Failure 49.39%; Malnutrition 40.7%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 43.78%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
<p>Jitapunkul, 1992</p>	<p>General data Publication year: 1992; Country of study (categorical moderator): United Kingdom; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 81.7 years; Gender (% of male among all study participants): 40.8%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) COPD 5.43%; Pneumonia 3.8%; Stroke 12.5%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 17.93%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
<p>Khurana, 2002</p>	<p>General data Publication year: 2002; Country of study (categorical moderator): India; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 71.3 years; Gender (% of male among all study participants): 64.0%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>

	<p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Impaired Hearing 32%; Impaired Vision 46%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Kobayashi, 2017	<p>General data Publication year: 2017; Country of study (categorical moderator): Japan; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): retrospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): diagnosis recorded in medical files; Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 5; Mean age (all study participants): 82.7 years; Gender (% of male among all study participants): 46.6%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Diabetes 15.27%; Hypertension 43.51%; Smoking 1.53%; Stroke 1.15%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 0%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Opioids 5.73%</p>
Large, 2013	<p>General data Publication year: 2013; Country of study (categorical moderator): USA; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): scales accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Gender (% of male among all study participants): 81.6%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Independent Living 97.96%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) Caucasian race 79.59%</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression)</p>

	<p>No data relevant for meta-regression</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Lundström, 2004	<p>General data Publication year: 2004; Country of study (categorical moderator): Sweden; Type of the study (categorical moderator): 3; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 82.0 years; Gender (% of male among all study participants): 23.7%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Independent Living 62.5%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Anemia 82.29%; Constipation 48.96%; Falls 27.08%; Heart Failure 11.46%; Hip Fracture 100%; Myocardial Infarction 4.17%; Pneumonia 3.13%; Stroke 1.04%; Urinary Retention 18.75%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Depression 55.21%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Lundström, 2005	<p>General data Publication year: 2005; Country of study (categorical moderator): Sweden; Type of the study (categorical moderator): 3; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 80.7 years; Gender (% of male among all study participants): 49.5%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Independent Living 88%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Diabetes 23.5%; Heart Failure 25.5%; Impaired Hearing 4%; Impaired Vision 17.5%; Malignancy 13%; Myocardial Infarction 4.5%; Stroke 25%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 4.5%</p>

	<p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Benzodiazepines 7%; Diuretics 60%; Neuroleptics 9%</p>
Marcantonio, 2005	<p>General data Publication year: 2005; Country of study (categorical moderator): USA; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): nursing home; Method to establish the diagnosis of delirium (categorical moderator): scales accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 82.0 years; Gender (% of male among all study participants): 67.1%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) Caucasian race 71.32%</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Dehydration 4.26%; Heart Failure 4.65%; Pneumonia 7.75%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 16.67%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Morandi, 2019	<p>General data Publication year: 2019; Country of study (categorical moderator): Italy; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): retrospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): scales accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 82.9 years; Gender (% of male among all study participants): 20.8%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Falls 10.02%; Malnutrition 29.48;</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 17.34%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Olofsson, 2005	<p>General data</p>

	<p>Publication year: 2005; Country of study (categorical moderator): Sweden; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 82.6 years; Gender (% of male among all study participants): 34.4%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Institutional Care 34.43%; Independent Living 65.57%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Anemia 96.72%; Constipation 47.54%; Dehydration 13.11%; Diabetes 24.59%; Falls 18.03%; Heart Failure 21.31%; Hip Fracture 100%; Hypertension 40.98%; Impaired Hearing 47.54%; Impaired Vision 57.38%; Urinary Retention 9.84%;</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 32.79%; Depression 34.43%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Anti Depressant 31.15%; Benzodiazepines 29.51%; Diuretics 42.62%</p>
Olofsson, 2018	<p>General data Publication year: 2018; Country of study (categorical moderator): Sweden; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 82.2 years; Gender (% of male among all study participants): 25.2%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Independent Living 81.34%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Constipation 42.54%; Diabetes 20.15%; Falls 18.03%; Hip Fracture 100%; Hypertension 45.52%; Impaired Hearing 44.78%; Impaired Vision 35.82%; Urinary Retention 17.91%;</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 0%; Depression 29.85%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Anti Depressant 24.63%; Neuroleptics 5.22%</p>
Perez-Ros, 2018	General data

	<p>Publication year: 2018; Country of study (categorical moderator): Spain; Type of the study (categorical moderator): case-control; Study temporality (categorical moderator): retrospective; Study setting (categorical moderator): nursing home; Method to establish the diagnosis of delirium (categorical moderator): both DSM or ICD criteria (any version) and validated rating scales; Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 86.0 years; Gender (% of male among all study participants): 24.7%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Institutional Care 100%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Anemia 24.51%; COPD 7.52%; Hip Fracture 20.92%; Impaired Hearing 16.34%; Impaired Vision 53.59%; Renal Failure 16.34%; Stroke 18.3%; Urinary Catheter 1.31%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 54.9%; Depression 33.33%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Anti Depressant 34.31%; Drugs with anticholinergic properties 22.22%; Neuroleptics 25.16%</p>
Raats, 2015	<p>General data Publication year: 2015; Country of study (categorical moderator): Netherlands; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): both DSM or ICD criteria (any version) and validated rating scales; Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Gender (% of male among all study participants): 63.8%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Institutional Care 3.02%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Anemia 55.17%; Hypertension 50.86%; Impaired Hearing 29.74%; Impaired Vision 29.31%; Malignancy 78.02%; Smoking 16.38%; Urinary Retention 3.88%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>
Sandberg, 1999	General data

	<p>Publication year: 1999; Country of study (categorical moderator): Sweden; Type of the study (categorical moderator): cross-sectional; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): mixed; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 83.7 years; Gender (% of male among all study participants): 55.4%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Institutional Care 55.51%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Atrial Fibrillation 10.88%; Impaired Hearing 46.16%; Impaired Vision 60.25%; Myocardial Infarction 1.95%; Pneumonia 1.12%; Stroke 5.3%; Urinary Catheter 4.6%; Urinary Retention 1.53%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 33.19%; Depression 6.28%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Drugs with anticholinergic properties 32.22%; Neuroleptics 22.18%</p>
<p>Schuurmans, 2003</p>	<p>General data Publication year: 2003; Country of study (categorical moderator): Netherlands; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 82.7 years; Gender (% of male among all study participants): 13.0%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Institutional Care 31.52%; Independent Living 65.22%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Dehydration 10.87%; Hip Fracture 100%; Malnutrition 3.26%; Urinary Catheter 85.87%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Opioids 81.52%</p>
<p>Stroomer-Van Wijk, 2016</p>	<p>General data Publication year: 2016; Country of study (categorical moderator): Netherlands; Type of the study (categorical moderator): case-control; Study temporality (categorical</p>

	<p>moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): diagnosis recorded in medical files; Quality of study (Newcastle-Ottawa scale total score): 6; Mean age (all study participants): 86.5 years; Gender (% of male among all study participants): 23.9%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) Institutional Care 37.5%; Independent Living 62.5%</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Atrial Fibrillation 23.86%; COPD 12.5%; Dehydration 18.18%; Diabetes 18.18%; Falls 21.59%; Heart Failure 18.18%; Impaired Hearing 47.73%; Impaired Vision 44.32%; Malnutrition 20.45%; Myocardial Infarction 1.14%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 77.27%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) Antidepressant 5.68%; Benzodiazepines 26.14%; Drugs with anticholinergic properties 67.05%; Neuroleptics 12.5%; Opioids 12.5%</p>
<p>Wojszel, 2018</p>	<p>General data Publication year: 2018; Country of study (categorical moderator): Poland; Type of the study (categorical moderator): cohort; Study temporality (categorical moderator): prospective; Study setting (categorical moderator): clinical; Method to establish the diagnosis of delirium (categorical moderator): scales accordance to criteria of DSM or ICD (any version); Method to establish the diagnosis of UTI (categorical moderator): microbiological urine tests and presence of UTI symptoms; Quality of study (Newcastle-Ottawa scale total score): 6; Gender (% of male among all study participants): 37.4%</p> <p>Socioeconomic status of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Race/Ethnicity of participants in the whole group (relevant for meta-regression) No data relevant for meta-regression</p> <p>Type and prevalence of medical comorbidities in the whole group (relevant for meta-regression) Heart Failure 61.9%; Renal Failure 39.51%; Stroke 13.99%; Urinary Catheter 2.8%</p> <p>Type and prevalence of psychiatric comorbidities in the whole group (relevant for meta-regression) Dementia 32.52%; Depression 53.5%</p> <p>Type of received medication (and percentage of receiving participants) in the whole group (relevant for meta-regression) No data relevant for meta-regression</p>

Supplementary Tables S7 – S12
Results of a meta-regression with categorical moderators

Supplementary Table S7
Results of a meta-regression with the country of study as a categorical moderator

Covariate: study country

Number of studies: 29

Reference subgroup: USA (9 studies)

Q = 8.62; df = 12; p = 0.735

R² = 0.00

	Coefficient	Standard Error	95% confidence interval		Z-value	2-sided p-value	VIF
			Lower limit	Upper limit			
Intercept	0.941	0.261	0.429	1.453	3.60	0.000	4.243
Brazil	0.252	0.764	-1.245	1.750	0.33	0.741	1.097
France	-2.240	1.592	-5.361	0.880	-1.41	0.159	1.021
India	0.880	1.055	-1.189	2.948	0.83	0.405	1.049
Italy	0.094	0.610	-1.101	1.288	0.15	0.878	1.160
Japan	0.300	1.258	-2.165	2.765	0.24	0.812	1.034
Netherlands	0.886	0.611	-0.311	2.083	1.45	0.147	1.159
Peru	-1.018	0.765	-2.517	0.481	-1.33	0.183	1.097
Poland	-0.102	0.669	-1.413	1.209	-0.15	0.879	1.130
Portugal	0.111	0.608	-1.080	1.302	0.18	0.855	1.161
Spain	0.058	0.466	-0.855	0.971	0.12	0.901	1.301
Sweden	-0.007	0.340	-0.674	0.660	-0.02	0.983	1.612
United Kingdom	0.963	0.936	-0.870	2.797	1.03	0.303	1.063

Supplementary Table S8
Results of a meta-regression with the type of the study as a categorical moderator

Covariate: type of the study

Number of studies: 29

Reference subgroup: cohort studies (19 studies)

Q = 4.58; df = 3; p = 0.205

R² = 0.00

	Coefficient	Standard Error	95% confidence interval		Z-value	2-sided p-value	VIF
			Lower limit	Upper limit			
Intercept	0.986	0.152	0.688	1.284	6.49	0.000	1.629
cross-sectional studies	-0.337	0.293	-0.911	0.236	-1.15	0.249	1.059
case-control studies	0.561	0.383	-0.190	1.313	1.46	0.143	1.051
control groups in RCTs	0.261	0.577	-0.869	1.391	0.45	0.651	1.025

Supplementary Table S9
Results of a meta-regression with the study temporality as a categorical moderator

Covariate: study temporality

Number of studies: 29

Reference subgroup: prospective studies (23 studies)

Q = 1.96; df = 1; p = 0.162

R² = 0.14

	Coefficient	Standard Error	95% confidence interval		Z-value	2-sided p-value	VIF
			Lower limit	Upper limit			
Intercept	0.885	0.130	0.631	1.139	6.82	0.000	1.336
retrospective studies	0.362	0.259	-0.145	0.869	1.40	0.162	1.000

Supplementary Table S10
Results of a meta-regression with the study setting as a categorical moderator

Covariate: study setting

Number of studies: 29

Reference subgroup: clinical samples (23 studies)

Q = 4.87; df = 3; p = 0.181

R² = 0.00

	Coefficient	Standard Error	95% confidence interval		Z-value	2-sided p-value	VIF
			Lower limit	Upper limit			
Intercept	1.161	0.149	0.870	1.452	7.81	0.000	1.405
nursing home samples	-0.707	0.382	-1.455	0.041	-1.85	0.064	1.029
epidemiological samples	-0.375	0.406	-1.172	0.422	-0.92	0.356	1.028
mixed samples	-0.704	0.572	-1.826	0.417	-1.23	0.218	1.017

Supplementary Table S11
Results of a meta-regression
with the method to establish the diagnosis of delirium as a categorical moderator

Covariate: method to establish the diagnosis of delirium

Number of studies: 29

Reference subgroup: accordance to criteria of DSM or ICD (any version) (15 studies)

Q = 2.03; df = 3; p = 0.566

R² = 0.00

	Coefficient	Standard Error	95% confidence interval		Z-value	2-sided p-value	VIF
			Lower limit	Upper limit			
Intercept	1.150	0.175	0.808	1.493	6.58	0.000	2.036
validated rating scales	-0.391	0.279	-0.938	0.157	-1.40	0.162	1.124
both DSM or ICD criteria and validated rating scales	-0.278	0.488	-1.235	0.678	-0.57	0.569	1.064
diagnosis recorded in medical files	-0.135	0.394	-0.907	0.638	-0.34	0.733	1.095

Supplementary Table S12
Results of a meta-regression
with the method to establish the diagnosis of UTI as a categorical moderator

Covariate: method to establish the diagnosis of UTI

Number of studies: 29

Reference subgroup: microbiological urine tests and presence of UTI symptoms (2 studies)

Q = 1.42; df = 1; p = 0.233

R² = 0.09

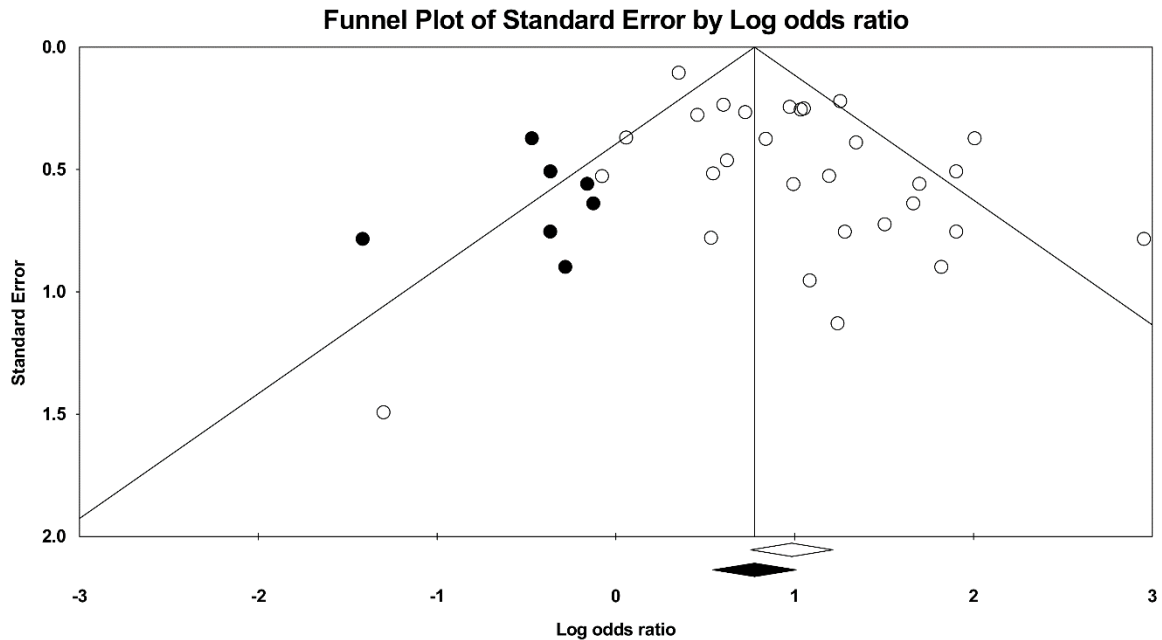
	Coefficient	Standard Error	95% confidence interval		Z-value	2-sided p-value	VIF
			Lower limit	Upper limit			
Intercept	1,425	0,391	0,658	2,191	3,64	0,000	11,747
diagnosis recorded in medical files	-0,487	0,409	-1,288	0,314	-1,19	0,233	1,000

Supplementary Table S13
Results of a meta-regression with numerical moderators

Covariate	Number of studies	Coefficient	Standard Error	95% confidence interval		Z-value	P-value
				Lower limit	Upper limit		
Publication year	29	0.000	0.018	-0.034	0.035	0.03	0.978
Quality of study (rating on the Newcastle-Ottawa Scale)	29	0.269	0.266	-0.253	0.792	1,01	0.312
Mean age	24	-0.014	0.026	-0.065	0.038	-0.52	0.603
Gender (% of male)	29	-0.000	0.006	-0.012	0.012	-0.05	0.964
Institutional care	10	-0.011	0.007	-0.026	0.003	-1.56	0.119
Independent living	7	-0.024	0.020	-0.063	0.014	-1.25	0.211
Caucasian race	4	-0.016	0.058	-0.130	0.098	-0.27	0.784
Anemia	4	0.015	0.008	0.000	0.030	1,93	0.053
Atrial fibrillation	5	0.015	0.057	-0.096	0.126	0.27	0.788
Constipation	6	0.015	0.015	-0.014	0.044	0.99	0.322
COPD	7	0.012	0.023	-0.033	0.057	0.51	0.608
Dehydration	5	0.188	0.053	0.084	0.292	3.53	0.000
Diabetes	13	0.007	0.034	-0.059	0.072	0.20	0.840
Falls	7	-0.032	0.033	-0.096	0.033	-0.97	0.332
Heart failure, unspecified	14	0.006	0.009	-0.011	0.023	0.71	0.480
Hip fracture	8	0.005	0.005	-0.006	0.015	0.83	0.409
Hypertension	11	0.009	0.010	-0.011	0.030	0.89	0.374
Impaired hearing	8	0.020	0.019	-0.017	0.057	1.06	0.291
Impaired vision	8	-0.009	0.019	-0.047	0.028	-0.49	0.623
Malignancy	5	0.001	0.012	-0.021	0.024	0.12	0.906
Malnutrition	5	0.022	0.019	-0.016	0.060	1.14	0.253
Myocardial infarction	9	0.039	0.128	-0.212	0.290	0.31	0.760
Pneumonia	11	0.067	0.055	-0.041	0.176	1.22	0.223
Pulmonary embolism	4	1.166	1.031	-0.854	3.186	1.13	0.258
Renal failure	7	0.008	0.016	-0.025	0.040	0.46	0.645
Smoking	6	0.028	0.068	-0.106	0.162	0.40	0.686
Stroke	14	0.004	0.005	-0.006	0.014	0.72	0.474
Urinary catheter	8	0.020	0.007	0.005	0.035	2.68	0.007
Urinary retention	6	0.070	0.023	0.024	0.115	3.02	0.003
Dementia	20	0.002	0.006	-0.010	0.015	0.34	0.735
Depression	10	0.009	0.007	-0.005	0.023	1.30	0.192
Antidepressants	5	-0.013	0.029	-0.071	0.044	-0.46	0.646
Benzodiazepines	5	0.081	0.039	0.004	0.159	2.07	0.039
Diuretics	4	0.015	0.023	-0.029	0.060	0.67	0.504
Drugs with anticholinergic properties	4	0.043	0.022	0.001	0.086	2.02	0.043
Neuroleptics	8	-0.003	0.030	-0.061	0.055	-0.11	0.911
Opioids	6	-0.015	0.014	-0.042	0.012	-1.07	0.283

Supplementary Figures

Supplementary Figure S1 Funnel plot: all studies



Duval and Tweedie's trim and fill

	Fixed Effects				Random Effects			Q Value
	Studies Trimmed	Point Estimate	Lower Limit	Upper Limit	Point Estimate	Lower Limit	Upper Limit	
Observed values		2.15918	1.91751	2.43132	2.67368	2.12455	3.36475	70.87269
Adjusted values	7	1.98100	1.76700	2.22092	2.17125	1.71948	2.74173	100.84741

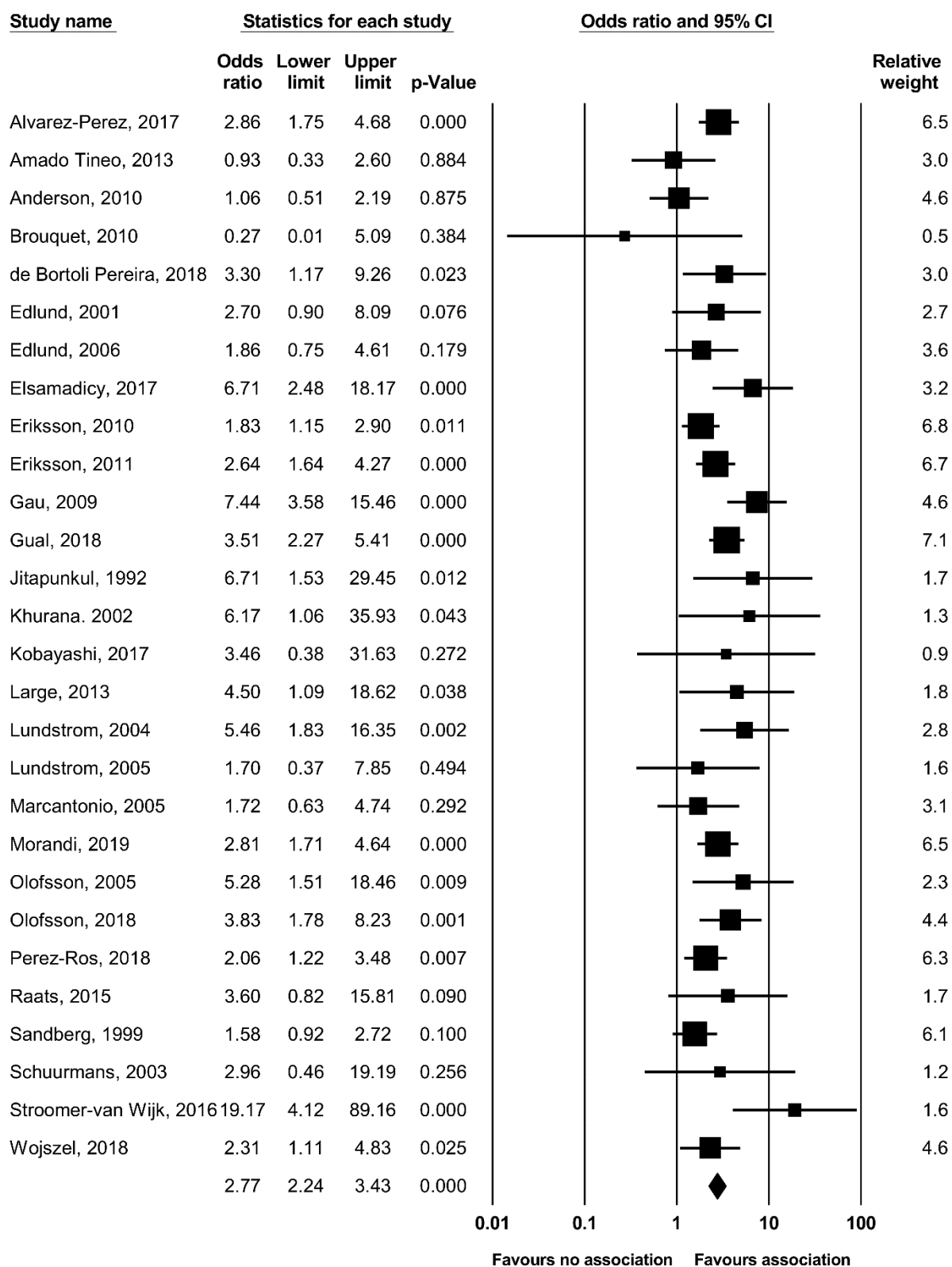
Classic fail-safe N

Z-value for observed studies	12.84648
P-value for observed studies	0.00000
Alpha	0.05000
Tails	2.00000
Z for alpha	1.95996
Number of observed studies	29.00000
Number of missing studies that would bring p-value to > alpha	1217.00000

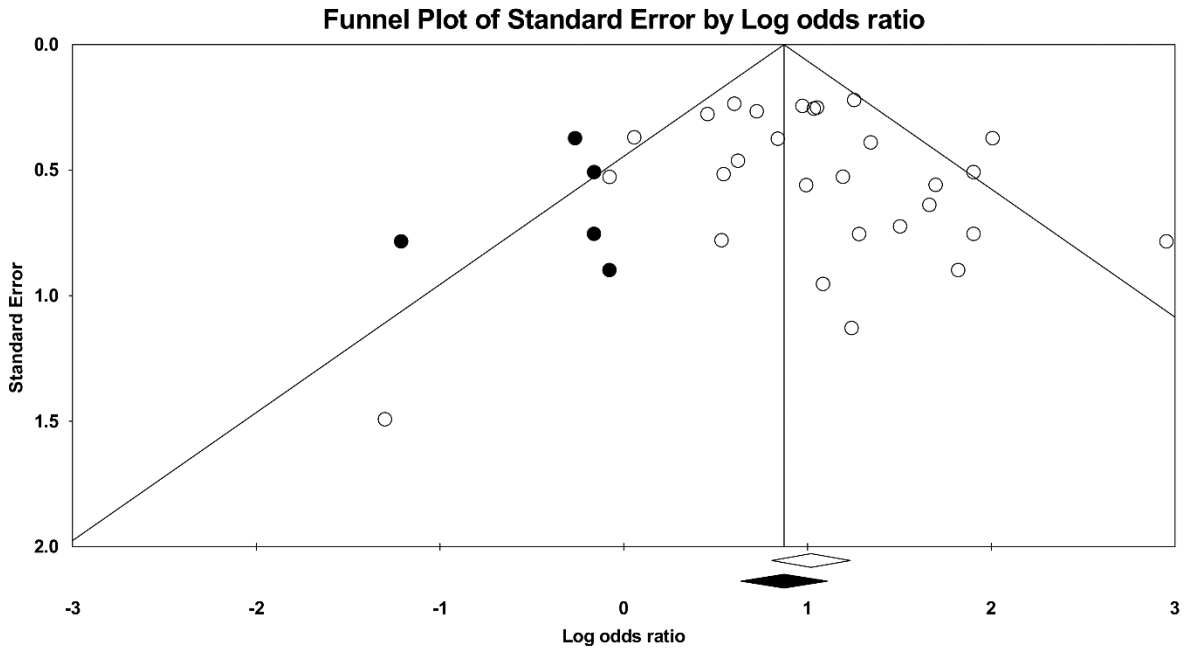
Egger's regression intercept

Intercept	1.37227
Standard error	0.46540
95% lower limit (2-tailed)	0.41736
95% upper limit (2-tailed)	2.32718
t-value	2.94861
df	27.00000
P-value (1-tailed)	0.00326
P-value (2-tailed)	0.00651

Supplementary Figure S2
Forest plot: After removing the study with the highest weight



Supplementary Figure S3
Funnel plot: After removing the study with the highest weight



Duval and Tweedie's trim and fill

	Fixed Effects			Random Effects			Q Value	
	Studies Trimmed	Point Estimate	Lower Limit	Upper Limit	Point Estimate	Lower Limit	Upper Limit	
Observed values		2.65721	2.29805	3.07251	2.77023	2.23720	3.43025	47.22423
Adjusted values	5	2.39935	2.08726	2.75810	2.39216	1.89074	3.02654	72.70471

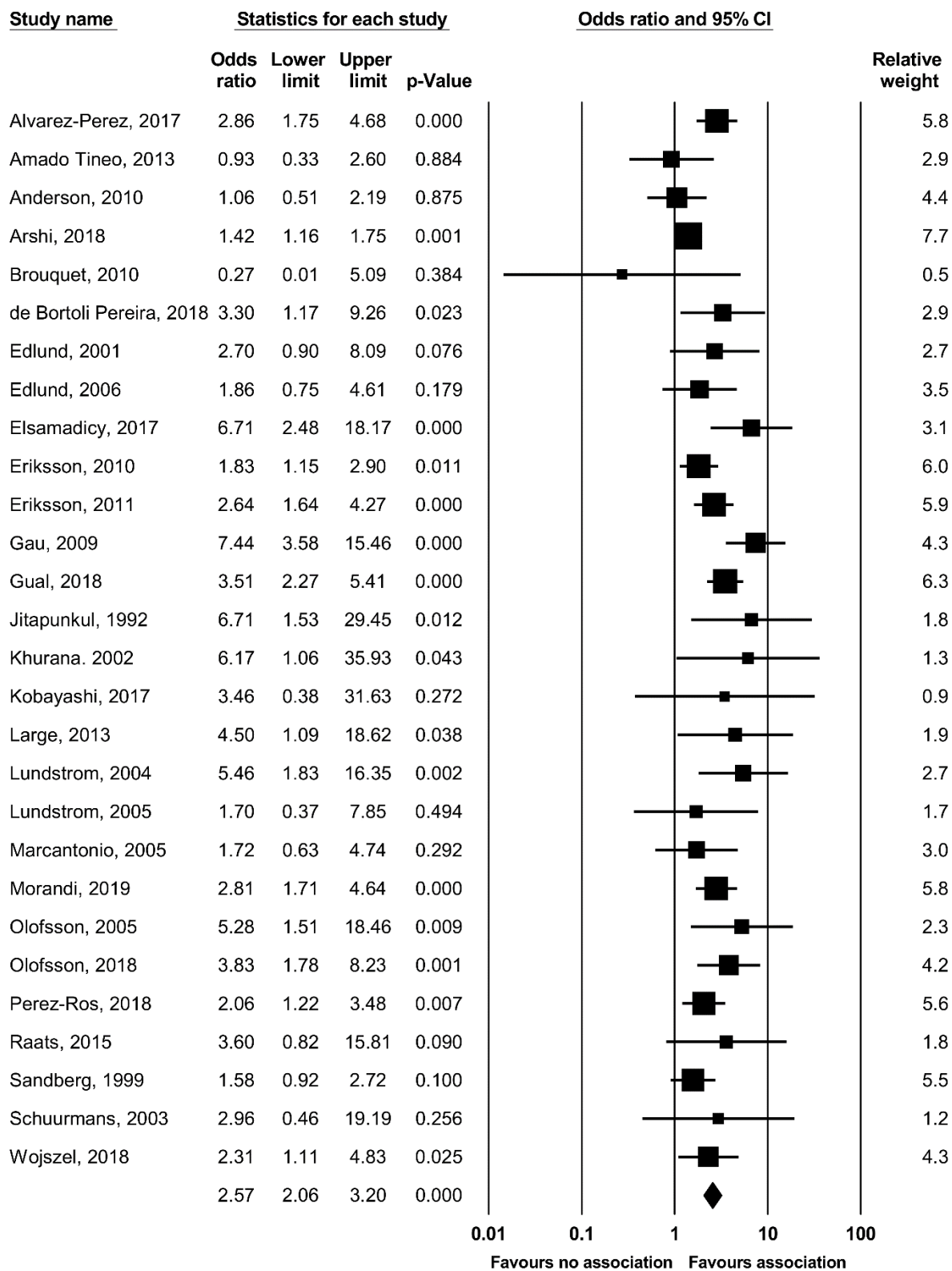
Classic fail-safe N

Z-value for observed studies	12.44152
P-value for observed studies	0.00000
Alpha	0.05000
Tails	2.00000
Z for alpha	1.95996
Number of observed studies	28.00000
Number of missing studies that would bring p-value to > alpha	1101.00000

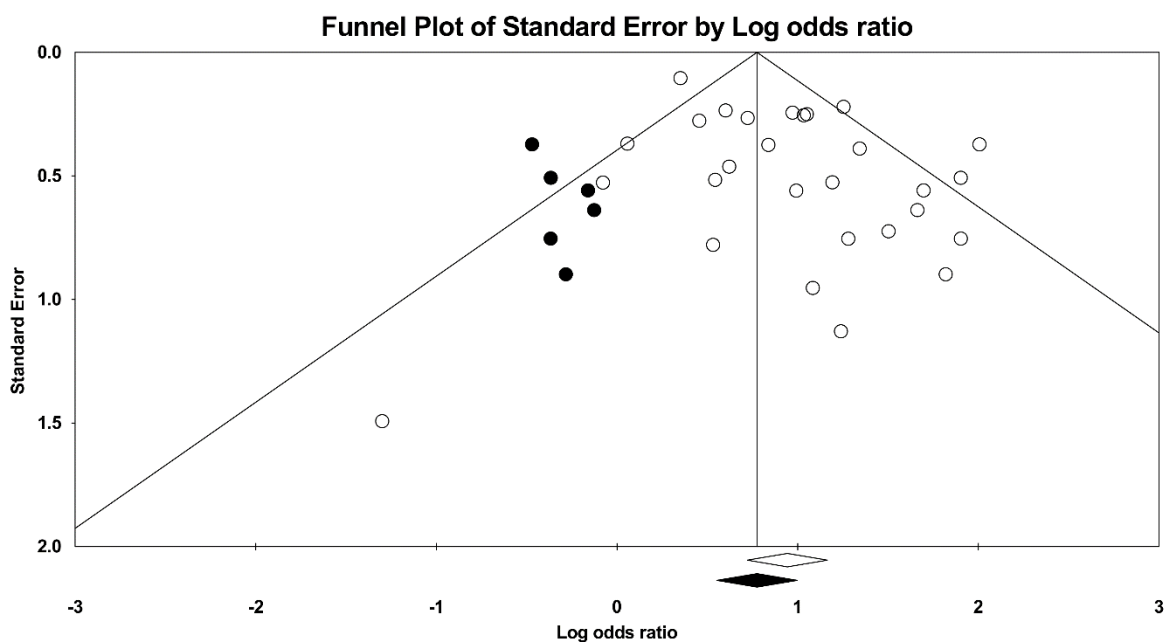
Egger's regression intercept

Intercept	0.59406
Standard error	0.56273
95% lower limit (2-tailed)	-0.56264
95% upper limit (2-tailed)	1.75076
t-value	1.05568
df	26.00000
P-value (1-tailed)	0.15041
P-value (2-tailed)	0.30082

Supplementary Figure S4
Forest plot: After removing one clear outlier



Supplementary Figure S5
Funnel plot: After removing one clear outlier



Duval and Tweedie's trim and fill

	Fixed Effects			Random Effects			Q Value	
	Studies Trimmed	Point Estimate	Lower Limit	Upper Limit	Point Estimate	Lower Limit	Upper Limit	
Observed values		2.13107	1.89187	2.40052	2.56761	2.05793	3.20351	63.07038
Adjusted values	6	1.97911	1.76419	2.22021	2.17064	1.73760	2.71160	85.30111

Classic fail-safe N

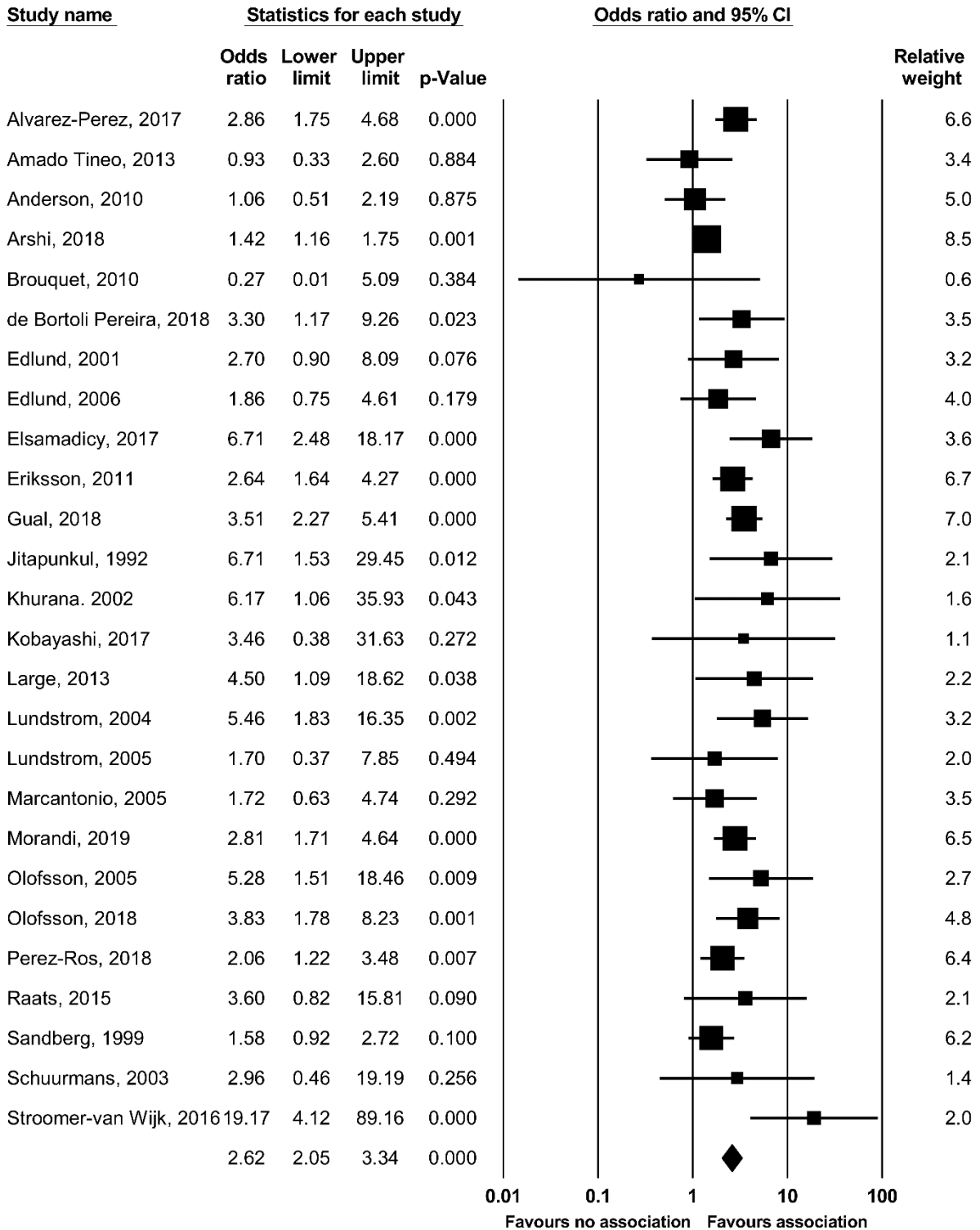
Z-value for observed studies	12.36207
P-value for observed studies	0.00000
Alpha	0.05000
Tails	2.00000
Z for alpha	1.95996
Number of observed studies	28.00000
Number of missing studies that would bring p-value to > alpha	1086.00000

Egger's regression intercept

Intercept	1.22986
Standard error	0.46857
95% lower limit (2-tailed)	0.26670
95% upper limit (2-tailed)	2.19302
t-value	2.62470
df	26.00000
P-value (1-tailed)	0.00716
P-value (2-tailed)	0.01433

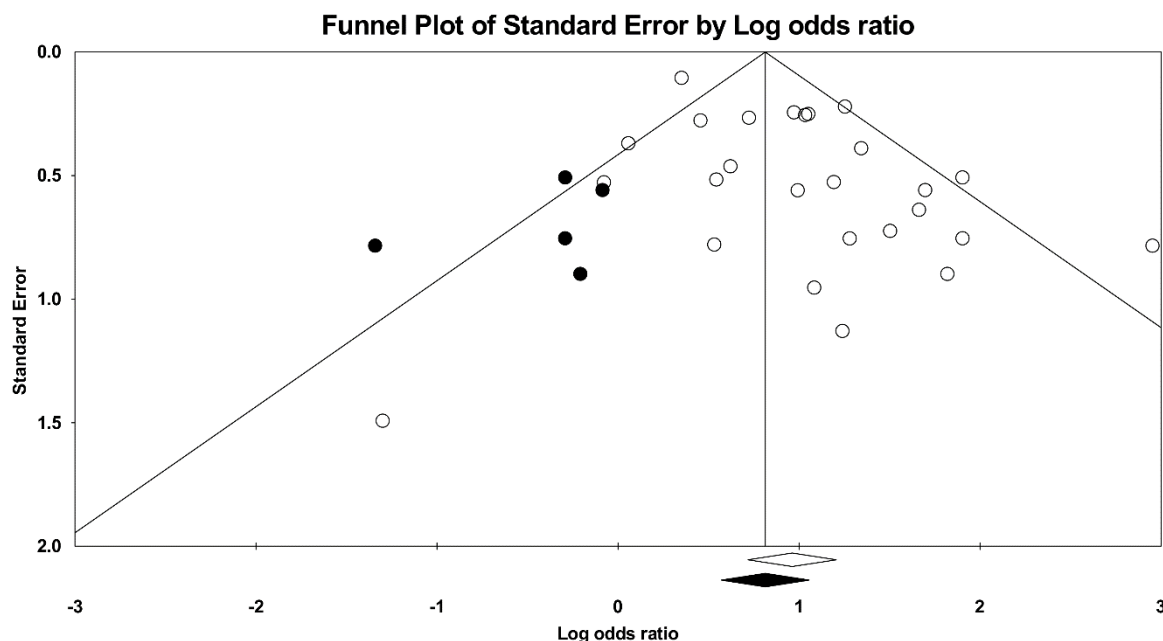
Supplementary Figure S6.

Forest plot: Studies comparing participants with delirium to controls without delirium



Supplementary Figure S7

Funnel plot: Studies comparing participants with delirium to controls without delirium



Duval and Tweedie's trim and fill

	Fixed Effects			Random Effects			Q Value	
	Studies Trimmed	Point Estimate	Lower Limit	Upper Limit	Point Estimate	Lower Limit	Upper Limit	
Observed values		2.10272	1.85302	2.38606	2.61738	2.05066	3.34071	59.15952
Adjusted values	5	1.99672	1.76484	2.25907	2.25624	1.76877	2.87805	74.88697

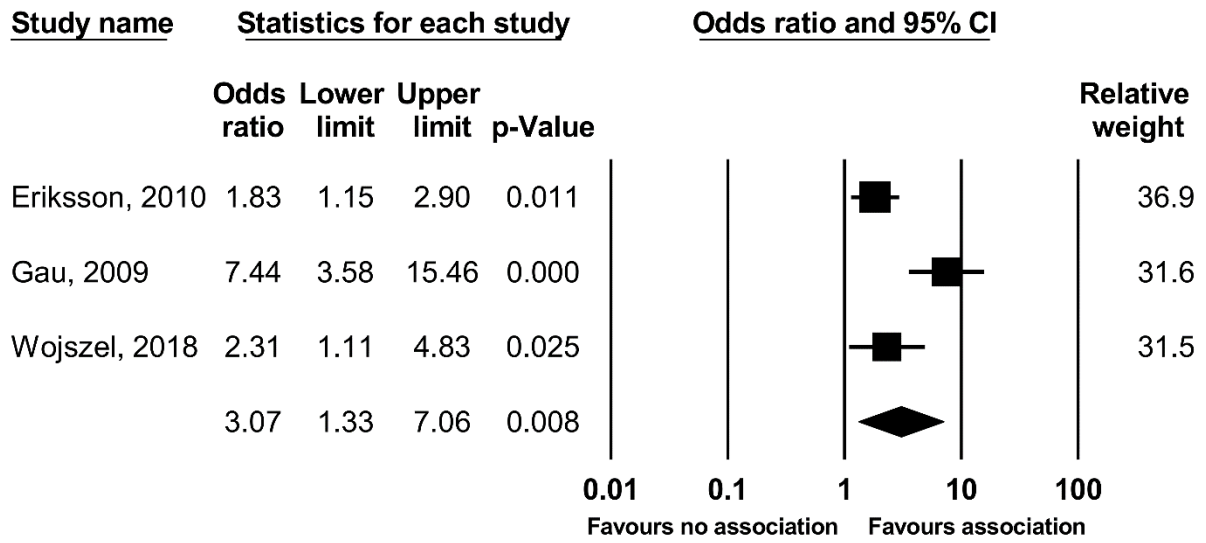
Classic fail-safe N

Z-value for observed studies	11.57365
P-value for observed studies	0.00000
Alpha	0.05000
Tails	2.00000
Z for alpha	1.95996
Number of observed studies	26.00000
Number of missing studies that would bring p-value to > alpha	881.00000

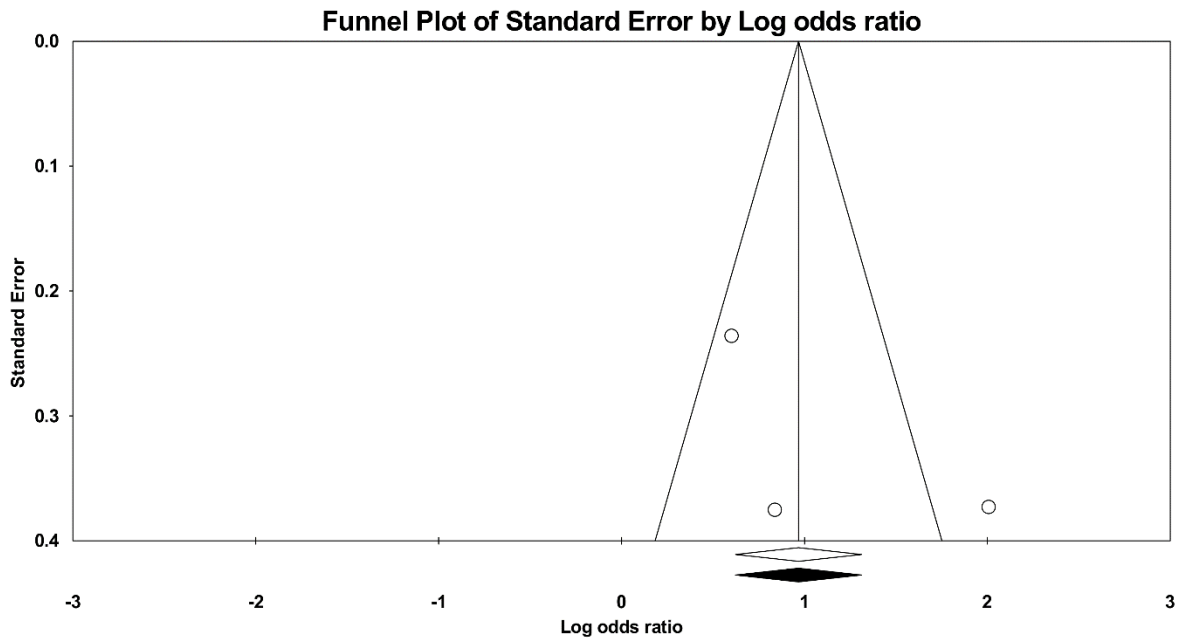
Egger's regression intercept

Intercept	1.27777
Standard error	0.45413
95% lower limit (2-tailed)	0.34049
95% upper limit (2-tailed)	2.21505
t-value	2.81367
df	24.00000
P-value (1-tailed)	0.00481
P-value (2-tailed)	0.00962

Supplementary Figure S8
Forest plot: Studies comparing participants with UTI to non-UTI controls



Supplementary Figure S9
Funnel plot: Studies comparing participants with UTI to non-UTI controls



Duval and Tweedie's trim and fill

	Fixed Effects			Random Effects			Q Value	
	Studies Trimmed	Point Estimate	Lower Limit	Upper Limit	Point Estimate	Lower Limit		Upper Limit
Observed values		2.63093	1.86291	3.71557	3.06538	1.33131	7.05812	10.28549
Adjusted values	0	2.63093	1.86291	3.71557	3.06538	1.33131	7.05812	10.28549

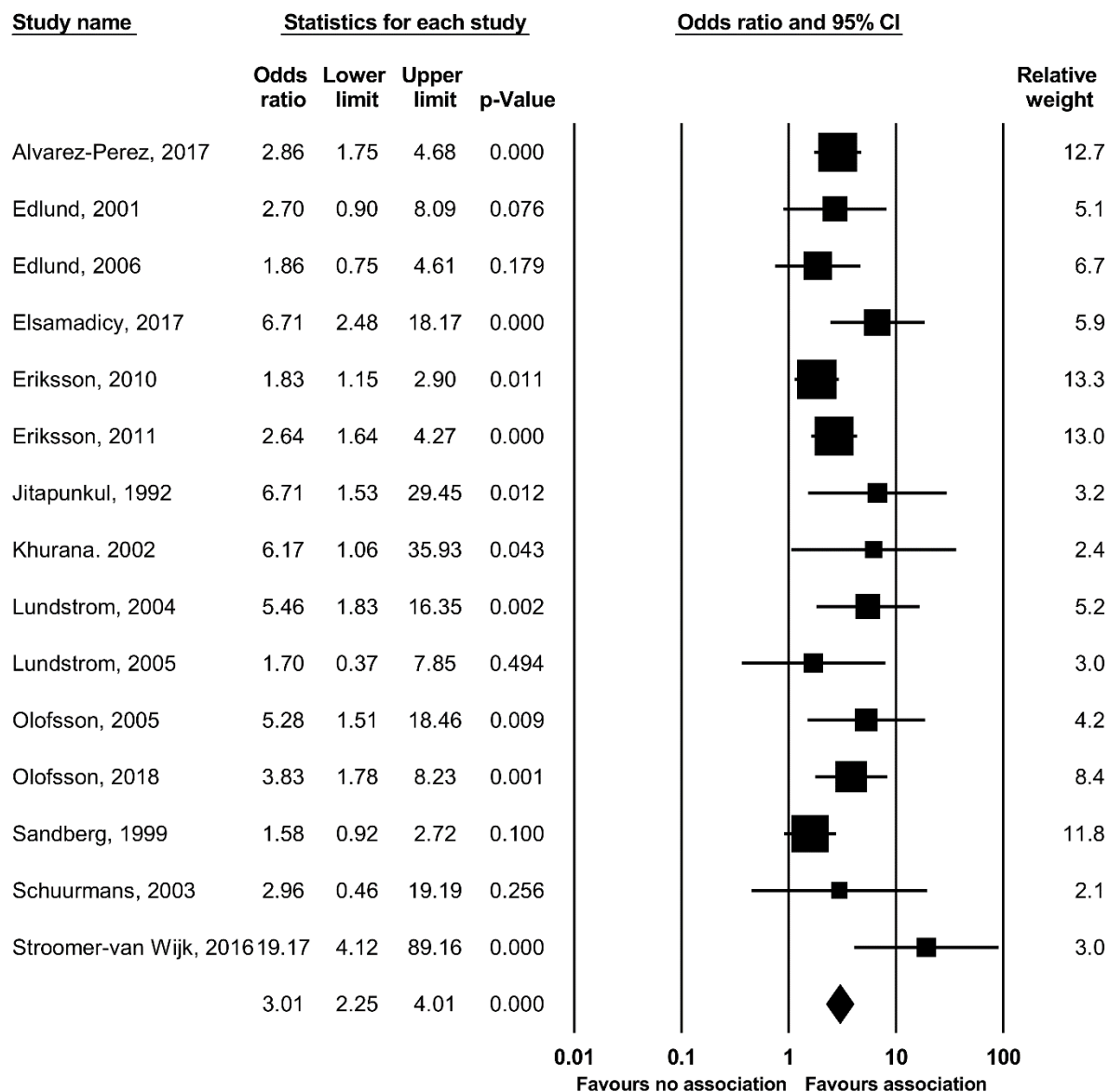
Classic fail-safe N

Z-value for observed studies	5.86944
P-value for observed studies	0.00000
Alpha	0.05000
Tails	2.00000
Z for alpha	1.95996
Number of observed studies	3.00000
Number of missing studies that would bring p-value to > alpha	24.00000

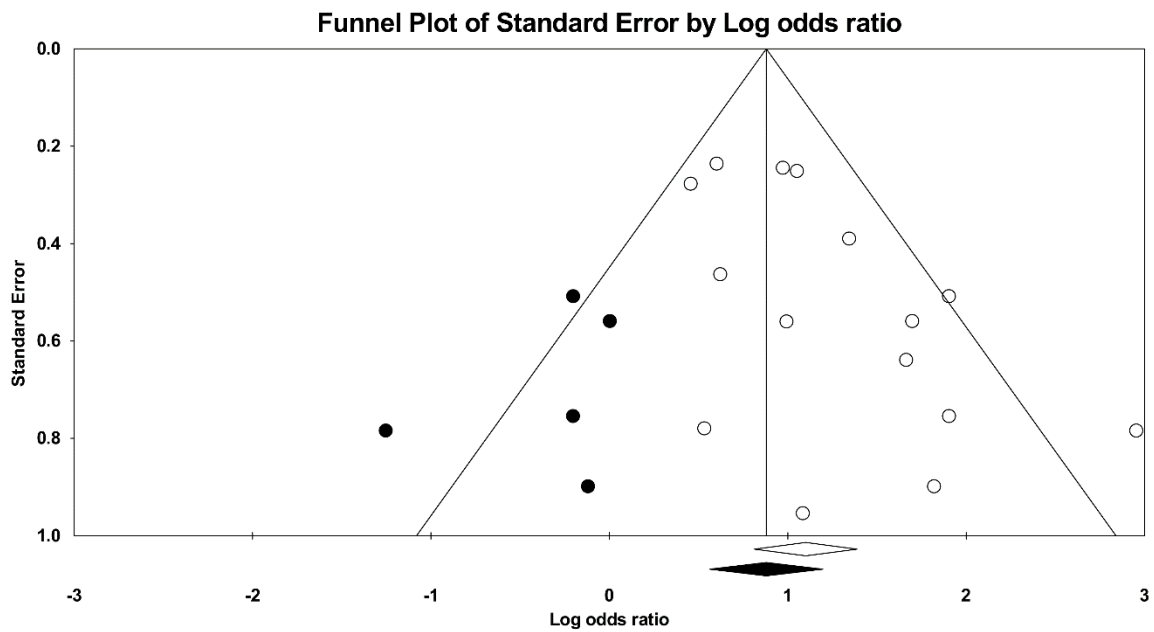
Egger's regression intercept

Intercept	5.90696
Standard error	5.73169
95% lower limit (2-tailed)	-66.92108
95% upper limit (2-tailed)	78.73499
t-value	1.03058
df	1.00000
P-value (1-tailed)	0.24521
P-value (2-tailed)	0.49041

Supplementary Figure S10
Forest plot: Studies with a diagnosis of delirium based on DSM or ICD criteria



Supplementary Figure S11
Funnel plot: Studies with a diagnosis of delirium based on DSM or ICD criteria



Duval and Tweedie's trim and fill

	Fixed Effects				Random Effects			Q Value
	Studies Trimmed	Point Estimate	Lower Limit	Upper Limit	Point Estimate	Lower Limit	Upper Limit	
Observed values		2.69212	2.20138	3.29224	3.00594	2.25377	4.00914	22.81648
Adjusted values	5	2.34095	1.93610	2.83046	2.40874	1.75270	3.31035	41.56593

Classic fail-safe N

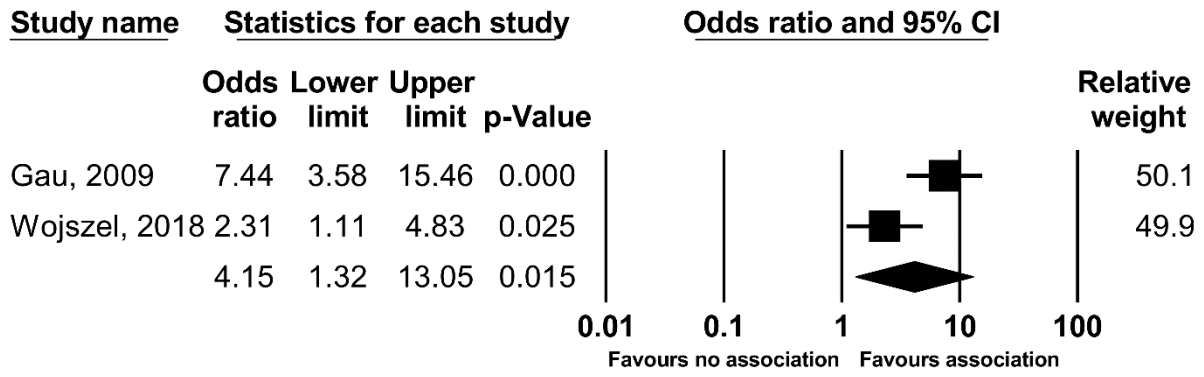
Z-value for observed studies	9.92688
P-value for observed studies	0.00000
Alpha	0.05000
Tails	2.00000
Z for alpha	1.95996
Number of observed studies	15.00000
Number of missing studies that would bring p-value to > alpha	370.00000

Egger's regression intercept

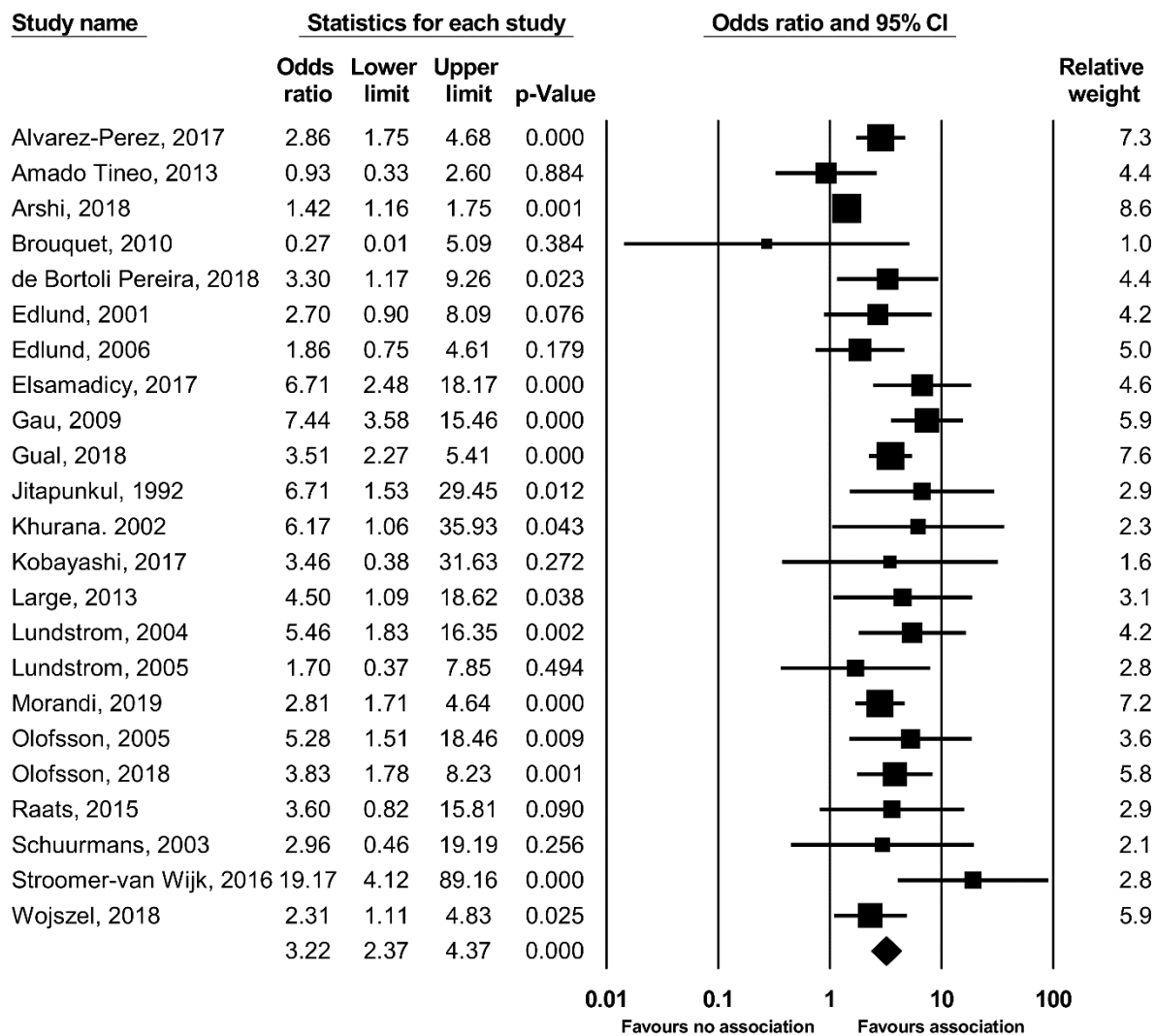
Intercept	1.68165
Standard error	0.61223
95% lower limit (2-tailed)	0.35901
95% upper limit (2-tailed)	3.00429
t-value	2.74677
df	13.00000
P-value (1-tailed)	0.00832
P-value (2-tailed)	0.01664

Supplementary Figure S12

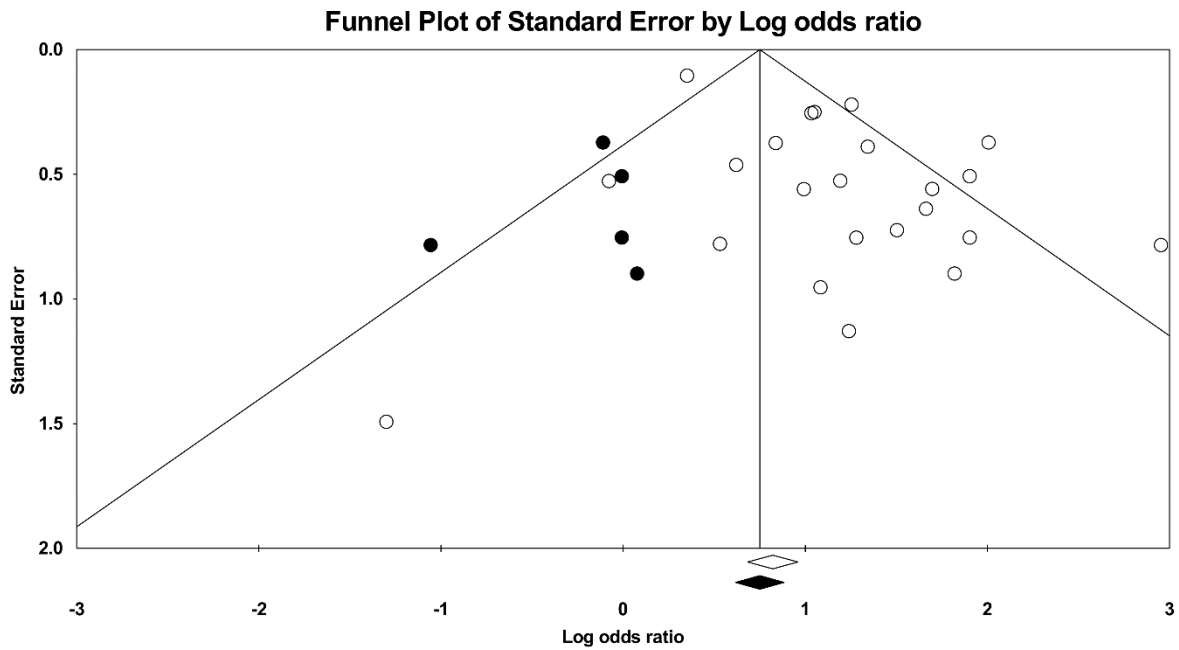
Forest plot: Studies with a diagnosis of UTI based on microbiological urine tests



Supplementary Figure S13
Forest plot: Studies conducted in the clinical setting



Supplementary Figure S14
Funnel plot: Studies conducted in the clinical setting



Duval and Tweedie's trim and fill

	Fixed Effects				Random Effects			Q Value
	Studies Trimmed	Point Estimate	Lower Limit	Upper Limit	Point Estimate	Lower Limit	Upper Limit	
Observed values		2.27437	1.97989	2.61266	3.21657	2.36672	4.37160	63.94317
Adjusted values	5	2.11826	1.85349	2.42085	2.60687	1.94926	3.48633	79.35434

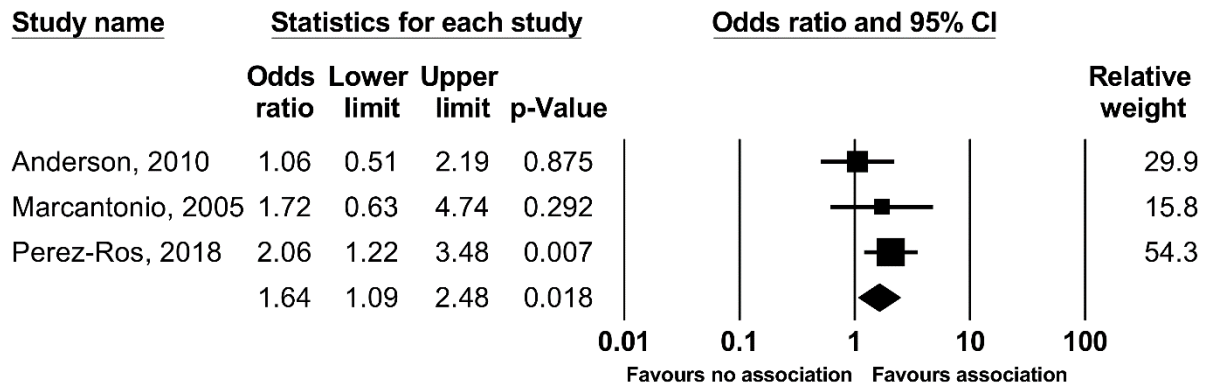
Classic fail-safe N

Z-value for observed studies	11.90156
P-value for observed studies	0.00000
Alpha	0.05000
Tails	2.00000
Z for alpha	1.95996
Number of observed studies	23.00000
Number of missing studies that would bring p-value to > alpha	826.00000

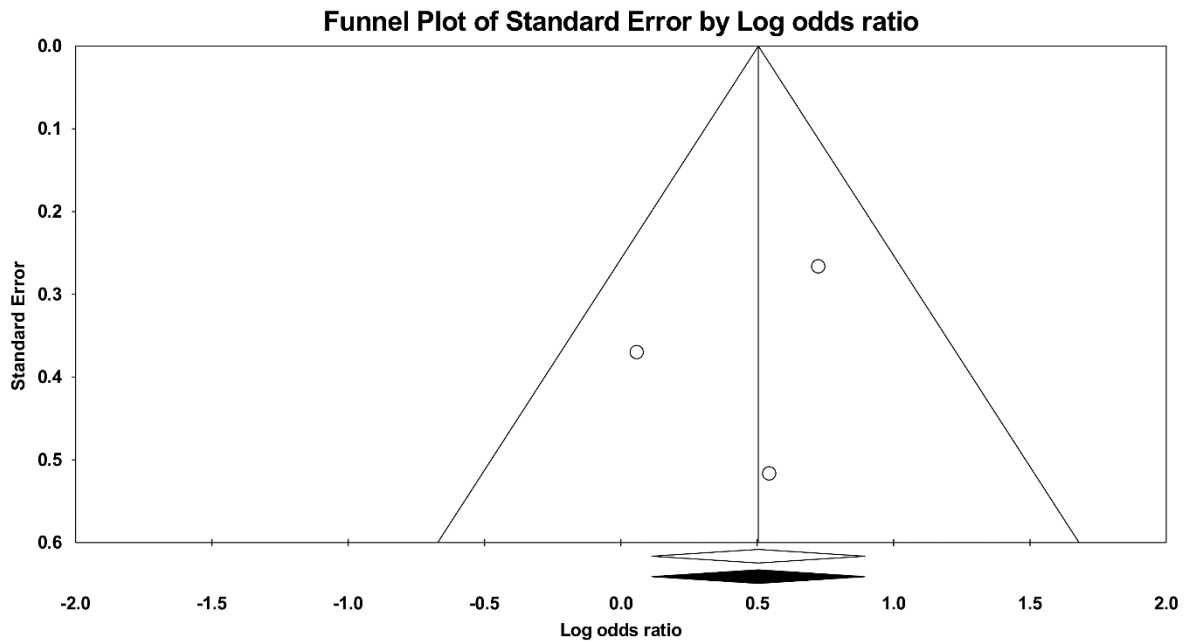
Egger's regression intercept

Intercept	1.51258
Standard error	0.48564
95% lower limit (2-tailed)	0.50264
95% upper limit (2-tailed)	2.52252
t-value	3.11462
df	21.00000
P-value (1-tailed)	0.00262
P-value (2-tailed)	0.00524

Supplementary Figure S15
Forest plot: Studies conducted in nursing homes



Supplementary Figure S16
Funnel plot: Studies conducted in nursing homes



Duval and Tweedie's trim and fill

	Fixed Effects				Random Effects			Q Value
	Studies Trimmed	Point Estimate	Lower Limit	Upper Limit	Point Estimate	Lower Limit	Upper Limit	
Observed values		1.65498	1.11967	2.44622	1.64318	1.09044	2.47610	2.14131
Adjusted values	0	1.65498	1.11967	2.44622	1.64318	1.09044	2.47610	2.14131

Classic fail-safe N

Z-value for observed studies	2.26847
P-value for observed studies	0.02330
Alpha	0.05000
Tails	2.00000
Z for alpha	1.95996
Number of observed studies	3.00000
Number of missing studies that would bring p-value to > alpha	2.00000

Egger's regression intercept

Intercept	-1.50667
Standard error	2.91270
95% lower limit (2-tailed)	-38.51609
95% upper limit (2-tailed)	35.50275
t-value	0.51728
df	1.00000
P-value (1-tailed)	0.34805
P-value (2-tailed)	0.69610

Supplementary Figure S17
Forest plot: Studies of population-based samples

